The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

PIPELINE ENGINEERING AND SAFETY DIVISION

INCIDENT REPORT

453 Worthington Street, Springfield, Massachusetts
November 23, 2012

PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington Street, Springfield, Massachusetts

November 23, 2012

Columbia Gas of Massachusetts

*Estimated Property Damage: $1,310,000.00

Injuries: 17

Report Issued: September 19, 2014

* Estimated by Columbia Gas of Massachusetts

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I. INTRODUCTION

A. Scope of the Investigation

The Massachusetts Department of Public Utilities ("Department"), Pipeline Engineering and Safety Division ("Division"), pursuant to G.L. c. 164, § 105A and a Federal Certification Agreement as provided for in 49 U.S.C. § 60105, has investigated a natural gas ("gas") release at 453 Worthington Street, MA, on November 23, 2012 ("Incident").[1] The release of gas contributed to an explosion, injuries of seventeen (17) persons, and an estimated $ 1,310,000.00 in property damage as estimated by Columbia Gas of Massachusetts ("CMA" or "Operator") (Exh. 1).

As part of the Department's annual certification process by the United States Department of Transportation ("U.S. DOT"), the Department must report to the U.S. DOT

> each accident or incident . . . involving a fatality, personal injury requiring hospitalization, or property damage or loss of more than an amount the Secretary establishes... and any other accident the [Department] considers significant, and a summary of the investigation by the [Department] of the cause and circumstances surrounding the accident or incident. 49 U.S.C. § 60105(c).

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[1] Incident means any of the following events:
(1) An event that involves a release of gas from a pipeline, or of liquefied natural gas, liquefied petroleum gas, refrigerant gas, or gas from an LNG facility, and that results in one or more of the following consequences:
(i) A death, or personal injury necessitating in-patient hospitalization;
(ii) Estimated property damage of $50,000 or more, including loss to the operator and others, or both, but excluding cost of gas lost;
(iii) Unintentional estimated gas loss of three million cubic feet or more;
(2) An event that results in an emergency shutdown of an LNG facility. Activation of an emergency shutdown system for reasons other than an actual emergency does not constitute an incident.
(3) An event that is significant in the judgment of the operator, even though it did not meet the criteria of paragraphs (1) or (2) of this definition.

The purpose of this report is to inform the U.S. DOT as to the cause and circumstances surrounding the Incident.

The Department has established procedures for determining the nature and extent of violations of codes and regulations pertaining to the safety of pipeline facilities and the transportation of gas, including but not limited to, 220 C.M.R. §§ 101.00 through 113.00. See 220 C.M.R. § 69.00 et seq. The Division also enforces the U.S. DOT safety standards for gas pipeline systems as set forth in 49 C.F.R. Part 192 ("Part 192") and 49 C.F.R. Part 199 ("Part 199"). G.L. c. 164, § 105A.

B. Overview of Incident

At approximately 5:56 p.m. on November 23, 2012, the Department received notice from CMA of a release of gas at 453 Worthington Street, Springfield (Exh. 2). The caller reported that a CMA Utility Technician ("CMA Technician") punctured the gas service while investigating an odor complaint, resulting in the release of gas into the building that subsequently ignited and exploded (Exh. 3(a)). The Department dispatched two investigators to the scene. The damaged portion of the gas service was constructed of one and a quarter (1¼) inch plastic pipe that was inserted into a two (2) inch bare steel pipe, operating at approximately fifty three (53) pounds per square inch gage ("psig") (Exh. 4).[2]

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[2] Pounds per square inch gauge refer to the pressure expressed in pounds exerted on one square inch of surface area. The designation "gauge," indicates the readings are already adjusted to ignore the surrounding atmospheric pressure, which is 14.7 psi at sea level. If psig gauge were not connected to any pressure source, it would read zero even though it is actually sensing 14.7 psi at sea level.

II. THE DEPARTMENT'S INVESTIGATION

A. Description of the Gas Facilities

Worthington Street, Springfield, is located in an area comprised of commercial properties and apartment buildings (Exh. 5(a)). The structure at 453 Worthington Street was a two-story building with a basement and a concrete foundation.

CMA operates two gas mains that underlie Worthington Street, a sixteen (16) inch coated steel gas main installed in 1980 and an eight (8) inch low pressure cast iron gas main installed in 1930 (Exh. 6).

The gas service to 453 Worthington Street was connected to the sixteen (16) inch coated steel gas main (Exh. 4). In 1993, the Operator renewed the gas service by inserting one and a quarter (1¼) inch plastic pipe into the original two (2) inch bare steel gas service supplying 453 Worthington Street (Exh. 4). CMA installed the gas service valve in the street at the gas main (Exhs. 4, 5(e)). Downstream of the gas service valve was a ninety (90) degree bend in the gas service, it then extended into 453 Worthington Street (Exhs. 4, 5(e)). The service regulator and gas meter were located inside the basement of the building (Exhs. 4, 5(g)). The operating pressure of the gas main at the time of the Incident was approximately fifty three (53) psig (Exh. 4).

B. Description of the Scene

On November 23, 2012, at approximately 8:20 p.m., Division investigators arrived at the scene of the Incident. Representatives from CMA, Springfield Fire and Police Departments, State Police, and the State Fire Marshal's Office were at the scene.

The building had been completely destroyed and debris from the explosion was blown onto Worthington Street, into adjacent properties, and several blocks away (Exhs. 5(a),(b)).

C. Description of the Incident

1. CMA Inside Leak Investigation

At 3:25 p.m., the CMA Call Center received a call from the property manager of 453 Worthington Street, reporting an odor of gas inside the building (Exh. 3(b),(d)). The property manager indicated to CMA that there was a slight odor of gas above the gas meters in the basement of 453 Worthington Street (Exh. 3(d)). CMA informed the property manager that someone would be onsite within an hour (Exh. 3(d)). There is no record that the CMA Call Center provided any further instructions to the caller (Exh. 3(d)).

At 3:29 p.m., CMA dispatched a CMA Technician to 453 Worthington Street (Exh. 3(b)). The CMA Technician arrived onsite at 3:49 p.m. (Exh. 3(b)). When the CMA Technician arrived, he parked in the adjacent lot and called the property manager to 453 Worthington Street (Exh. 3(c)).

When the manager arrived, they proceeded to the front of the building (Exh. 3(b)). At that time, the CMA Technician reported that he smelled a slight odor of gas (Exh. 3(a),(b),(c)).

The property manager took the CMA Technician into the basement of the building to the location of the gas service (Exh. 3(a),(b),(c)). The CMA Technician stated that he detected a slight odor of gas inside the building, but his combustible gas indicator ("CGI") machine did not record any gas readings (Exh. 3(a),(b),(c)). Using his CGI machine, the CMA Technician checked for gas around the meter, connections of the gas meter, gas service and associated gas

piping (Exh. 3(a),(b),(c)). As he checked the gas service entrance inside the building, he noticed a soft clay material around the service entrance (Exh. 3(a),(b),(c)). However, his CGI machine detected no gas readings (Exh. 3(a),(b),(c)). There is no record that the CMA Technician checked any other utilities or appliances in the basement or checked any other areas inside the building (Exh. 3(a),(b),(c)). The CMA Technician then exited the building and commenced a leak investigation outside the building.

2. Outside Leak Investigation

CMA stated that the CMA Technician exited the building and located an electric manhole; he inserted the probe from his CGI machine into the manhole cover and obtained no gas readings. He then observed a faded yellow mark on the sidewalk that appeared to be in line with the gas service in the basement of 453 Worthington Street and the gas service valve in the street (Exhs. 3(a),(b),(c),5(f)). The CMA Technician went to his truck, and got a tool that punches a steel bar into the ground ("probe bar" or "bang bar") that creates a hole ("barhole") to probe for gas readings (Exhs. 3(a),(b),(c),5(d)).

The CMA Technician then placed a barhole in front of the building where the curb meets the sidewalk (Exh. 3(a),(b),(c)). The CMA Technician detected no gas readings with his CGI machine (Exh. 3(a),(b),(c)). The CMA Technician, using the faded yellow line as a reference, stepped off to the side of the yellow line and placed a second barhole at a seam on the concrete sidewalk against the foundation wall of 453 Worthington Street (Exhs. 3(a),(b),(c),5(c)). The CMA Technician could not go down very far before gas began to immediately escape (Exh. 3(a),(b),(c)). At 4:11 P.M., the CMA Technician called dispatch to inform them of this situation (Exh. 3(a),(b),(c)).

3. The Location of the Gas Service to 453 Worthington Street

CMA produced no records of any Dig Safe markout requests that it had received for 453 Worthington Street from January 1, 2007, to November 22, 2012. The most recent Dig Safe markout request received by CMA in the vicinity of 453 Worthington Street was for 454 Worthington Street on August 18, 2011 (Exh. 7). The scope of the 2011 excavation request was limited to the street and the sidewalk area in front of 454 Worthington Street (Exh. 7). CMA's records indicate that the markout technician reported that he marked two mains, and that no active records of a gas service was found for 454 Worthington Street (Exh. 7).

The service card for the gas service supplying 453 Worthington Street demonstrates, and photographs of the exposed gas service in situ confirm, that the gas service did not go in a straight line from the service tee connection at the sixteen (16) inch coated steel gas main and service shutoff valve to the building (Exhs. 4, 5(e)). Instead, the gas service ran on top of, and in line with, the gas main for approximately twenty two (22) inches from the service valve to where the plastic gas service turned ninety (90) degrees towards the building (Exhs. 4, 5(e)). The gas service records for 453 Worthington Street reveal that, in December, 1993, CMA renewed the gas service by inserting thirty (30) feet of one and a quarter (1¼) inch plastic pipe into the original two (2) inch gas steel service supplying 453 Worthington Street (Exh. 4).

4. Operator Actions after the Release of Gas

After puncturing the gas service with his probe bar, the CMA Technician evacuated 453 Worthington Street and returned to the basement to turn the valve on the gas service to the off position (Exhs. 3(a),(b),(c)). After shutting off the valve, the technician took CGI readings

at numerous manholes and made telephone calls to dispatch (Exh. 3(a),(b),(c)). There is no record that the CMA Technician or any other CMA employee checked any other buildings in the area for the presence of gas (Exh. 3(b),(c)).

At 4:14 p.m., CMA dispatched a distribution crew to the Incident site (Exh. 3(b)). CMA notified the fire department at 4:19 p.m. (Exh. 3(b)). At 4:23 p.m., CMA notified Western Massachusetts Electric Company ("WMECo") (Exh. 3(b)).

Upon the arrival of the distribution crew at 4:55 p.m. (Exh. 3(b)), CMA reported that the CMA Technician began to assist the street crew in blowing out debris in the curb box, the curb valve was shut off and he assisted in opening manholes in the area (Exh. 3(b),(c).

The distribution crew located and cleared the service valve box to 453 Worthington Street (Exh. 8). The crew leader observed that the gas service to 453 Worthington Street came off the sixteen (16) inch coated steel gas main at a ninety (90) degree angle, and told a crew member to close the valve (Exhs. 4, 8). At approximately, 5:20 p.m., one hour and nine minutes after the CMA Technician informed CMA dispatch of the gas leak, the CMA distribution crew shut off the gas service valve (Exh. 3(b)).

CMA stated that the distribution crew checked the manholes and bar holes at the foundation wall with a CGI machine and acquired gas readings of ninety (90%) percent and fifty seven (57%) percent gas in air respectively (Exh. 8).

CMA reported that WMECo arrived onsite at 5:14 p.m. and spoke directly with Springfield Fire Department near the intersection of Worthington Street and Chestnut Street (Exhs. 3(b), 8).

After CMA shut off the gas service valve and the manhole covers had been removed, the gas reading in the manhole went to zero (0%) percent, and the fifty seven (57%) percent gas reading at the foundation wall decreased to fifty one (51%) percent (Exh. 8). After noting the drop in the readings the crew leader directed crew members to get behind the CMA truck, shortly after, the building at 453 Worthington Street exploded (Exh.8). At 5:27 p.m., CMA dispatch received a call from a distribution crew member reporting a gas explosion at 453 Worthington Street (Exh. 3(b)).

As a result of the explosion and subsequent fire, CMA reported that seventeen (17) people were injured (Exh. 1). CMA personnel present during the Incident were sent for Post Incident Drug and Alcohol Testing (Exh. 9). The CMA personnel underwent blood tests for drugs and alcohol (Exh.9). The blood test results showed that all CMA personnel tested negative for drugs and alcohol (Exh. 9).

D. Pressure Test of the Gas Service to Supplying 453 Worthington Street

Following their arrival at the Incident, the Department investigators requested that CMA pressure test the entire gas service from the connection at the sixteen (16) inch coated steel gas main to the service cock on the service riser located inside of 453 Worthington Street. CMA excavated at the gas main to expose the gas service tee, service valve, and the one and a quarter (1¼) inch plastic gas service piping as it entered the two (2) inch steel casing (Exhs. 4, 5(e)).

CMA first soap tested the short, approximately one (1) foot section of the gas service between the service tee and the service valve (Exh. 5(e)). The Department Investigators observed no indication of gas leakage at the service tee and service valve during the soap test.

CMA next isolated the service valve and service tee from the remaining portion of the gas service pipe supplying 453 Worthington Street.

On November 23, 2014, the day of the Incident, CMA stated that the operating pressure at its closest regulator station was 53 psig (Exh. 4). The Department investigators requested that CMA pressure test the remaining 29.5 feet of the gas service at 57 psig from the point of disconnect at the service valve in the street to the gas service cock located inside 453 Worthington Street (Exh. 5(h)).

The Department investigators observed a pressure loss and heard air blowing from the ground at a point close to the foundation wall. CMA excavated at the location of the blowing air, exposed the gas service in the sidewalk, and conducted another pressure test of the gas service at thirty (30) psig. The Department inspectors witnessed another pressure loss.

The source of the leak was determined to be an approximate half (½) inch puncture to the steel service casing which housed the one and a quarter (1¼) inch plastic gas service pipe that was also punctured (Exh. 5(c),(d)). The circumference of the probe bar that the CMA technician used for the leak investigation was the same circumference as the half (½) inch hole in the casing and the plastic gas carrying pipe (Exhs. 1, 4, 5(d)).

The puncture in the gas service was approximately twenty one (21) inches to the right side of the faded yellow mark found on the sidewalk (Exhs. 3(a),(b),(c), 5(f)). The yellow mark was in line with the gas service valve that was located in the street, approximately twenty eight (28) feet away (Exhs. 4, 5(e),(f)).

CMA pressure tested the remaining (undamaged) portion of the plastic gas service pipe from the sidewalk to the service valve separation at the gas main, at a pressure of fifty six (56)

psig for fifteen (15) minutes. The Department investigators observed no pressure drop, indicating no leakage in that section of the plastic gas service pipe.

CMA responded that, the Technician who damaged the gas service supplying 453 Worthington Street had no history of damaging other CMA facilities during his employment over the last three years (Exh. 10). All qualification records for the CMA Technician were consistent with federal requirements.

III. ODORIZATION

The state regulation, 220 C.M.R. § 101.06(20), requires operators to odorize gas in their distribution systems. Gas must be "readily perceptible to the normal or average olfactory senses of a person coming from fresh uncontaminated air into a closed room containing [0.15 percent gas in air]." 220 C.M.R. § 101.06(20)(a). Operators are also required to conduct periodic sampling of odorant concentrations throughout their system. 220 C.M.R. § 101.06(20)(f). CMA conducts odorant sampling on a monthly basis.

On November 23, 2012, a qualified CMA employee conducted an odor level test in Springfield after the explosion (Exh. 11). The result of the test is as follows:

1. 352 Worthington Street, Springfield @ 6 p.m. - Odor level @ 0.03 percent gas in air.

The odor detectability level of gas in the air is within the limits prescribed by state regulation. See 220 C.M.R. § 101.06(20)(a).

IV. MAINTENANCE ACTIVITIES

A review of the CMA maintenance records for the eight (8) inch cast iron gas main, and sixteen (16) inch steel gas main underlying Worthington Street between Spring and Chestnut Street, and the one and a quarter (1¼) inch plastic gas service indicates CMA

performed maintenance work on these facilities on March 5, 2007; March 12, 2007; and March 17, 2008 (Exhs. 6, 12). On March 5, 2007, CMA reported a 0.30 percent gas reading at the foundation wall of 453 Worthington Street (Exh. 12). On March 12, 2007, CMA repaired an eight (8) inch joint leak on the cast iron gas main in front of 453 Worthington Street (Exh. 12).

On March 17, 2008, the customer at 453 Worthington reported a pulsating pressure regulator (Exh. 13). CMA installed a new regulator and reported no gas readings (Exh. 13).

CMA records indicate that on June 27, 2008, and August 23, 2012, CMA conducted an inspection of the inside gas piping at 453 Worthington Street (Exh. 13). CMA detected no leaks and reported that the pipe was in good condition (Exh. 13).

V. LEAK SURVEYS

In order to determine if other leak sources may have been contributing factors to the Incident, the Department reviewed the leak history of the eight (8) inch cast iron and sixteen (16) inch coated steel gas mains underlying Worthington Street between Spring and Chestnut Streets. Leakage surveys of gas mains and services are required by federal and state regulations. See 49 C.F.R. § 192.723(a) and 220 C.M.R. § 101.06(21).

On July 9, and 20, 2010, CMA performed a walking survey of the mains and services (Exh. 14). On February 23, 2012, CMA conducted a winter patrol survey that was limited to the eight (8) inch and sixteen (16) inch gas mains (Exh. 14). CMA conducted a mobile survey of the mains on April 18, 2012 (Exh. 14).

After the Incident, CMA conducted a leak survey of the surrounding area (Exh. 15). This survey detected gas readings that ranged from seventy four (74%) percent to fifty two (52%) percent in front of 453 and 454 Worthington Street (Exh. 15).

VI. FINDINGS AND CONCLUSIONS

A. Findings

1. Gas facilities on Worthington Street

a. Worthington Street is located in a commercial district of Springfield, MA.
b. An eight (8) inch low pressure cast iron gas main installed in 1930 and a sixteen (16) inch steel gas main installed in 1980 underlie the area in front of 453 Worthington Street.
c. In 1993, CMA renewed the gas service supplying 453 Worthington Street by inserting one and a quarter (1¼) inch plastic pipe, into the original two (2) inch steel gas service.
e. The gas service supplying 453 Worthington Street was connected to the sixteen (16) inch coated steel gas main.
f. The operating pressure of the steel gas main and gas service at the time of the incident was approximately fifty three (53) psig.
g. The gas service ran on top of, and in line with, the steel gas main for approximately twenty two (22) inches from the service valve to where the plastic gas service turned ninety (90) degrees towards 453 Worthington Street.

2. The Incident

a. On November 23, 2013, at 3:25 p.m., the CMA Call Center received a call from the property manager reporting an odor of gas in the basement of 453 Worthington Street.
b. At 3:49 p.m., CMA reported that its technician arrived on the scene. The CMA Technician stated that he smelled a slight odor of gas at the front of the building.
c. The CMA Technician stated that he detected a slight odor of gas inside the basement of the building.
d. Using his CGI machine, the CMA Technician checked for gas around the gas meter, connections of the gas meter, gas service, associated gas piping and detected no gas readings.
e. The CMA technician checked the gas service entrance inside the building, but there is no record that the technician checked any other utilities or appliances inside the basement or checked any other areas inside the building.
f. The CMA Technician conducted an outside leak investigation, and observed a faded yellow mark on the sidewalk that appeared to be in line with the gas

service in the basement of 453 Worthington Street and the gas service valve in the street.

g. The CMA Technician checked for gas readings in an electric manhole and then placed a barhole with his probe bar in front of the building where the curb meets the sidewalk and detected no gas readings at both locations.

h. The CMA Technician, using the faded yellow line as a reference, stepped off to the side of the yellow line and placed a second barhole at a seam on the concrete sidewalk against the foundation wall of 453 Worthington Street.

i. The CMA Technician punctured the gas service with his probe bar when he placed this barhole against the foundation wall. The Technician heard gas escaping immediately.

j. The CMA Technician evacuated the building and returned to the basement to turn the valve to the off position on the gas service.

k. At 4:11 p.m. the CMA Technician contacted CMA dispatch and informed them of the situation.

l. The fire department, CMA supervisor, and distribution crew arrived onsite to address the uncontrolled release of gas.

m. CMA detected gas readings of ninety (90%) percent and fifty seven (57%) percent in an electric manhole and at the foundation wall respectively.

n. At approximately 5:20 p.m. one hour and nine minutes after the Technician had punctured the gas service, the distribution crew shut off the gas supply to 453 Worthington by shutting off the gas service valve in the street.

o. After shutting the gas off, CMA reported that the gas reading in the manhole decreased to zero (0%) percent and the gas reading at the foundation wall had decreased to fifty one (51%) percent.

p. At 5:27 p.m. CMA employee's onsite reported to dispatch that the building at 453 Worthington Street had exploded.

B. Conclusions

The source of the release of gas at 453 Worthington Street, Springfield, was the damaged one and a quarter (1¼) inch gas service. The hole in the gas service was caused by an external force applied to the steel casing and plastic gas service, when the CMA Technician inserted a probe bar on the sidewalk, near the foundation wall outside of the building at 453 Worthington Street. The escaping gas entered and accumulated in the building and in the nearby manhole that contained the electric service connection to 453 Worthington Street. Due

to the elevated gas levels in the manhole which created an unsafe condition preventing entrance to shut off the electric service to the building was not shut off by WMECo.

After CMA shut off the supply of gas to the building, gas accumulated within the building and reached an explosive level. The accumulated gas ignited and the building exploded. Inside the building were many potential sources of ignition.

VII. OPERATOR CORRECTIVE ACTIONS

In the course of its investigation into the cause and circumstances of this Incident, the Department concluded two enforcement actions. In Bay State Gas Company d/b/a Columbia Gas of Massachusetts, D.P.U 12-PL-11, the Department investigated CMA's actions specifically related to the release of gas that resulted in the Incident. The other enforcement action in Bay State Gas Company d/b/a Columbia Gas of Massachusetts, D.P.U 12-PL-12, concerned CMA's field activities with respect to CMA's operating and maintenance activities in the Springfield Division after the Incident.

CMA agreed to perform a number of actions with the intent of minimizing the possibility of a recurrence of this Incident. CMA will review and revise its Operating & Maintenance ("O&M") manual procedures concerning the utilization of probe bar tools for locating leaks. This review includes, but is not limited to: (a) the use of current tools CMA uses for leakage pinpointing; (b) employee (and contract employee) training on probe bar safety (i.e., depth of insertion, checking point (sharpness) of probe bars, locating facilities prior to bar-holing); (c) training on when and how to use a probe bar when performing a leak investigation; (d) processes allowing technicians immediate on-site access to service cards.

CMA will review, and modify as appropriate, the effectiveness of its: O&M procedures; emergency response procedures; training program(s) for call center representatives; operator qualification (and requalification) methods, training procedures and processes. CMA will also evaluate its current drug and alcohol testing facilities, including after hours facilities, to ensure that CMA has the necessary coverage to meet federal mandated testing time guidelines.

CMA stated that it will be abandoning 200 feet of cast iron gas main on Fairbank Place, 1,000 feet of eight (8) inch cast iron gas main, and 100 feet of twelve (12) inch cast iron gas main on Worthington Street. In addition, CMA will install 200 feet of two (2) inch plastic on Fairbank Place (60 psig) and 400 feet of two (2) inch plastic pipe on Worthington Street (60 psig).

EXHIBIT 1

CMA Incident Report to the U.S. Department of Transportation

NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed 100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.	OMB NO: 2137-0522 EXPIRATION DATE: 01/31/2014
U.S Department of Transportation Pipeline and Hazardous Materials Safety Administration	**Report Date:** 12/02/2012 **No.** 20120098- 15555 (DOT Use Only)

INCIDENT REPORT - GAS DISTRIBUTION SYSTEM

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0522. Public reporting for this collection of information is estimated to be approximately 10 hours per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

INSTRUCTIONS

Important: *Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at http://www.phmsa.dot.gov/pipeline.*

PART A - KEY REPORT INFORMATION

Report Type: *(select all that apply)*	**Original:** Yes	**Supplemental:**	**Final:**
Last Revision Date			

1. Operator's OPS-issued Operator Identification Number (OPID):	1209
2. Name of Operator	COLUMBIA GAS OF MASSACHUSETTS
3. Address of Operator:	
3a. Street Address	4 TECHNOLOGY DRIVE
3b. City	WESTBOROUGH
3c. State	Massachusetts
3d. Zip Code	01581
4. Local time *(24-hr clock)* and date of the Incident:	11/23/2012 17:25
5. Location of Incident:	
5a. Street Address or location description	453 Worthington Street
5b. City	Springfield
5c. County or Parish	Hampden
5d. State:	Massachusetts
5e. Zip Code:	01105
5f. Latitude:	42.10668
Longitude:	-72.589386
6. National Response Center Report Number:	1031399
7. Local time *(24-hr clock)* and date of initial telephonic report to the National Response Center:	11/23/2012 18:23
8. Incident resulted from:	Unintentional release of gas
9. Gas released:	Natural Gas
- Other Gas Released Name:	
10. Estimated volume of gas released - Thousand Cubic Feet (MCF):	26.00
11. Were there fatalities?	No
- If Yes, specify the number in each category:	
11a. Operator employees	
11b. Contractor employees working for the Operator	
11c. Non-Operator emergency responders	
11d. Workers working on the right-of-way, but NOT associated with this Operator	
11e. General public	
11f. Total fatalities (sum of above)	
12. Were there injuries requiring inpatient hospitalization?	Yes
- If Yes, specify the number in each category:	
12a. Operator employees	2
12b. Contractor employees working for the Operator	0
12c. Non-Operator emergency responders	12
12d. Workers working on the right-of-way, but NOT associated with this Operator	1
12e. General public	2
12f. Total injuries (sum of above)	17
13. Was the pipeline/facility shut down due to the incident?	No
- If No, Explain:	Service to building was shut-off due to incident

- If Yes, complete Questions 13a and 13b: *(use local time, 24-hr clock)*	
13a. Local time and date of shutdown:	
13b. Local time pipeline/facility restarted:	
- Still shut down? (* Supplemental Report Required)	
14. Did the gas ignite?	Yes
15. Did the gas explode?	Yes
16. Number of general public evacuated:	20
17. Time sequence *(use local time, 24-hour clock)*:	
17a. Local time operator identified Incident:	11/23/2012 17:30
17b. Local time operator resources arrived on site:	11/23/2012 17:30

PART B - ADDITIONAL LOCATION INFORMATION

1. Was the Incident on Federal land?	No
2. Location of Incident	Private property
3. Area of Incident:	Transition Area
Specify:	Wall sleeve
If Other, Describe:	
Depth of Cover:	
4. Did Incident occur in a crossing?	No
- If Yes, specify type below:	
- If Bridge crossing –	
Cased/ Uncased:	
- If Railroad crossing –	
Cased/ Uncased/ Bored/drilled	
- If Road crossing –	
Cased/ Uncased/ Bored/drilled	
- If Water crossing –	
Cased/ Uncased	
Name of body of water (If commonly known):	
Approx. water depth (ft):	

PART C - ADDITIONAL FACILITY INFORMATION

1. Indicate the type of pipeline system:	Natural Gas Distribution, privately owned
- If Other, specify:	
2. Part of system involved in Incident:	Service
- If Other, specify:	
2a. Year "Part of system involved in Incident" was installed:	1993
Unknown?	
3. When "Main" or "Service" is selected as the "Part of system involved in Incident" (from PART C, Question 2), provide the following:	
3a. Nominal diameter of pipe (in):	1.25
3b. Pipe specification (e.g., API 5L, ASTM D2513):	ASTM 02513
Unknown?	
3c. Pipe manufacturer:	Phillips or Plexco
Unknown?	
3d. Year of manufacture:	
Unknown?	Yes
4. Material involved in Incident:	Plastic
- If Other, specify:	
4a. If Steel, Specify seam type:	
None/Unknown?	
4b. If Steel, Specify wall thickness *(inches)*:	
Unknown?	
4c. If Plastic, Specify type:	Polyethylene (PE)
- If Other, describe:	
4d. If Plastic, Specify Standard Dimension Ratio (SDR):	
Or wall thickness:	.121
Unknown?	
4e. If Polyethylene (PE) is selected as the type of plastic in Part C, Question 4.c:	
- Specify PE Pipe Material Designation Code (i.e. 2406, 3408, etc.)	3408
Unknown?	
5. Type of release involved :	Mechanical Puncture
- If Mechanical Puncture - Specify Approx size:	
Approx. size: in. (axial):	.50
in. (circumferential):	.50
- If Leak - Select Type:	
- If Other, Describe:	

- If Rupture - Select Orientation:	
- If Other, Describe:	
Approx. size: (widest opening):	
(length circumferentially or axially):	
- If Other - Describe:	
PART D - ADDITIONAL CONSEQUENCE INFORMATION	
1. Class Location of Incident :	Class 2 Location
2. Estimated Property Damage :	
2a. Estimated cost of public and non-Operator private property damage	$ 1,000,000
2b. Estimated cost of Operator's property damage & repairs	$ 100,000
2c. Estimated cost of Operator's emergency response	$ 10,000
2d. Estimated other costs	$ 200,000
- Describe:	residual structure glass damage
2e. Total estimated property damage (sum of above)	$ 1,310,000
Cost of Gas Released	
2f. Estimated cost of gas released	$ 300
3. Estimated number of customers out of service:	
3a. Commercial entities	1
3b. Industrial entities	0
3c. Residences	0
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the Incident (psig):	57.00
2. Normal operating pressure at the point and time of the Incident (psig):	57.00
3. Maximum Allowable Operating Pressure (MAOP) at the point and time of the Incident (psig):	60.00
4. Describe the pressure on the system relating to the Incident:	Pressure did not exceed MAOP
5. Was a Supervisory Control and Data Acquisition (SCADA) based system in place on the pipeline or facility involved in the Incident?	No
- If Yes:	
5a. Was it operating at the time of the Incident?	
5b. Was it fully functional at the time of the Incident?	
5c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume or pack calculations) assist with the detection of the Incident?	
5d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Incident?	
6. How was the Incident initially identified for the Operator?	Local Operating Personnel, including contractors
6a. If "Controller", "Local Operating Personnel, including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 6, specify the following:	Operator employee
- If Other, Specify:	
7. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Incident?	No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the Operator did not investigate)
- If No, the operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (*provide an explanation for why the operator did not investigate*)	Incident was human error and isolated to damage on service
- If Yes, Specify investigation result(s) *(select all that apply)*:	
- Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
- Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
- Provide an explanation for why not:	
- Investigation identified no control room issues	
- Investigation identified no controller issues	
- Investigation identified incorrect controller action or controller error	
- Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response	
- Investigation identified incorrect procedures	
- Investigation identified incorrect control room equipment operation	

- Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response	
- Investigation identified areas other than those above	
Describe:	

PART F - DRUG & ALCOHOL TESTING INFORMATION

1. As a result of this Incident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	Yes
- If Yes:	
1a. Specify how many were tested:	6
1b. Specify how many failed:	0
2. As a result of this Incident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
2a. Specify how many were tested:	
2b. Specify how many failed:	

PART G - CAUSE INFORMATION

Select only one box from PART G in shaded column on left representing the Apparent Cause of the Incident, and answer the questions on the right. Describe secondary, contributing, or root causes of the Incident in the narrative (PART H).

Apparent Cause:	G8 - Other Incident Cause

G1 - Corrosion Failure – only one **sub-cause** can be picked from shaded left-hand column

Corrosion Failure Sub-Cause:	
- If External Corrosion:	
1. Results of visual examination:	
- If Other, Specify:	
2. Type of corrosion:	
- Galvanic	
- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other	
- If Other, Describe:	
3. The type(s) of corrosion selected in Question 2 is based on the following:	
- Field examination	
- Determined by metallurgical analysis	
- Other	
- If Other, Describe:	
4. Was the failed item buried under the ground?	
- If Yes:	
4a. Was failed item considered to be under cathodic protection at the time of the incident?	
- If Yes, Year protection started:	
4b. Was shielding, tenting, or disbonding of coating evident at the point of the incident?	
4c. Has one or more Cathodic Protection Survey been conducted at the point of the incident?	
If "Yes, CP Annual Survey" – Most recent year conducted:	
If "Yes, Close Interval Survey" – Most recent year conducted:	
If "Yes, Other CP Survey" – Most recent year conducted:	
- If No:	
4d. Was the failed item externally coated or painted?	
5. Was there observable damage to the coating or paint in the vicinity of the corrosion?	
6. Pipeline coating type, if steel pipe is involved:	
- If Other, Describe:	
- If Internal Corrosion:	
7. Results of visual examination:	
- If Other, Describe:	
8. Cause of corrosion *(select all that apply)*:	
- Corrosive Commodity	

- Water drop-out/Acid	
- Microbiological	
- Erosion	
- Other	
- If Other, Specify:	
9. The cause(s) of corrosion selected in Question 8 is based on the following: *(select all that apply)*:	
- Field examination	
- Determined by metallurgical analysis	
- Other	
- If Other, Describe:	
10. Location of corrosion *(select all that apply)*:	
- Low point in pipe	
- Elbow	
- Drop-out	
- Other	
- If Other, Describe:	
11. Was the gas/fluid treated with corrosion inhibitor or biocides?	
12. Were any liquids found in the distribution system where the Incident occurred?	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Part of system involved in incident" (from PART C, Question 2) is Main, Service, or Service Riser.	
13. Date of the most recent Leak Survey conducted	
14. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes:	
Most recent year tested:	
Test pressure:	
G2 – Natural Force Damage – only one **sub-cause** can be picked from shaded left-handed column	
Natural Force Damage – Sub-Cause:	
- If Earth Movement, NOT due to Heavy Rains/Floods:	
1. Specify:	
- If Other, Specify:	
- If Heavy Rains/Floods:	
2. Specify:	
- If Other, Specify:	
- If Lightning:	
3. Specify:	
- If Temperature:	
4. Specify:	
- If Other, Specify:	
- If High Winds:	
- Other Natural Force Damage:	
5. Describe:	
Complete the following if any Natural Force Damage sub-cause is selected.	
6. Were the natural forces causing the Incident generated in conjunction with an extreme weather event?	
6.a If Yes, specify *(select all that apply)*:	
- Hurricane	
- Tropical Storm	
- Tornado	
- Other	
- If Other, Specify:	
G3 – Excavation Damage – only one **sub-cause** can be picked from shaded left-hand column	
Excavation Damage – Sub-Cause:	
- If Excavation Damage by Operator (First Party):	
- If Excavation Damage by Operator's Contractor (Second Party):	
- If Excavation Damage by Third Party:	
- If Previous Damage due to Excavation Activity:	

Complete the following ONLY IF the "Part of system involved in Incident" (from Part C, Question 2) is Main, Service, or Service Riser.	
1. Date of the most recent Leak Survey conducted	
2. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes:	
Most recent year tested:	
Test pressure:	
Complete the following if Excavation Damage by Third Party is selected.	
3. Did the operator get prior notification of the excavation activity?	
3a. If Yes, Notification received from: *(select all that apply)*:	
- One-Call System	
- Excavator	
- Contractor	
- Landowner	
Complete the following mandatory CGA-DIRT Program questions if any Excavation Damage sub-cause is selected.	
4. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)?	
5. Right-of-Way where event occurred *(select all that apply)*:	
- Public	
- If Public, Specify:	
- Private	
- If Private, Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- Data not collected	
- Unknown/Other	
6. Type of excavator :	
7. Type of excavation equipment :	
8. Type of work performed :	
9. Was the One-Call Center notified?	
9a. If Yes, specify ticket number:	
9b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:	
10. Type of Locator:	
11. Were facility locate marks visible in the area of excavation?	
12. Were facilities marked correctly?	
13. Did the damage cause an interruption in service?	
13a. If Yes, specify duration of the interruption:	
14. Description of the CGA-DIRT Root Cause *(select only the one predominant first level CGA-DIRT Root Cause and then, where available as a choice, the one predominant second level CGA-DIRT Root Cause as well)*:	
- Root Cause Description:	
- If One-Call Notification Practices Not Sufficient, specify:	
- If Locating Practices Not Sufficient, specify:	
- If Excavation Practices Not Sufficient, specify:	
- If Other/None of the Above (explain), specify:	
G4 - Other Outside Force Damage - only one **sub-cause** can be selected from the shaded left-hand column	
Other Outside Force Damage – Sub-Cause:	
- If Nearby Industrial, Man-made, or Other Fire/Explosion as Primary Cause of Incident:	
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation:	
1. Vehicle/Equipment operated by:	
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost Their Mooring:	
2. Select one or more of the following IF an extreme weather event was a factor:	
- Hurricane	
- Tropical Storm	
- Tornado	
- Heavy Rains/Flood	

- Other	
- If Other, Specify:	
- If Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation:	
- If Electrical Arcing from Other Equipment or Facility:	
- If Previous Mechanical Damage NOT Related to Excavation:	
Complete the following ONLY IF the "Part of system involved in Incident" (from Part C, Question 2) is Main, Service, or Service Riser.	
3. Date of the most recent Leak Survey conducted:	
4. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
- If Intentional Damage:	
5. Specify:	
- If Other, Specify:	
- If Other Outside Force Damage:	
6. Describe:	
G5 - Pipe, Weld, or Joint Failure - only one **sub-cause** can be selected from the shaded left-hand column	
Pipe, Weld or Joint Failure – Sub-Cause:	
- If Body of Pipe:	
1. Specify:	
- If Other, Describe:	
- If Butt Weld:	
2. Specify:	
- If Other, Describe:	
- If Fillet Weld:	
3. Specify:	
- If Other, Describe:	
- If Pipe Seam:	
4. Specify:	
- If Other, Describe:	
- If Threaded Metallic Pipe:	
- If Mechanical Fitting:	
5. Specify the mechanical fitting involved:	
- If Other, Describe:	
6. Specify the type of mechanical fitting:	
- If Other, Describe:	
7. Manufacturer:	
8. Year manufactured:	
9. Year Installed:	
10. Other attributes:	
11. Specify the two materials being joined:	
11a. First material being jointed:	
- Steel	
- Cast/Wrought Iron	
- Ductile Iron	
- Copper	
- Plastic	
- Unknown	
- Other	
- If Other, Specify:	
11b. If Plastic, specify:	
- If Other Plastic, specify:	
11c. Second material being joined:	
- Steel	
- Cast/Wrought Iron	
- Ductile Iron	
- Copper	
- Plastic	

- Unknown	
- Other	
- If Other, Specify:	
11d. If Plastic, specify:	
- If Other Plastic, Specify:	
12. If used on plastic pipe, did the fitting – as designed by the manufacturer – include restraint?	
12a. If Yes, specify:	
- If Compression Fitting:	
13. Fitting type:	
14. Manufacturer:	
15. Year manufactured:	
16. Year installed:	
17. Other attributes:	
18. Specify the two materials being joined:	
18a. First material being joined:	
- Steel	
- Cast/Wrought Iron	
- Ductile Iron	
- Copper	
- Plastic	
- Unknown	
- Other	
- If Other, specify:	
18b. If Plastic, specify:	
- If Other Plastic, specify:	
18c. Second material being joined:	
- Steel	
- Cast/Wrought Iron	
- Ductile Iron	
- Copper	
- Plastic	
- Unknown	
- Other	
If Other, specify:	
18d. If Plastic, specify:	
- Other Plastic, specify:	
- If Fusion Joint:	
19. Specify:	
- If Other, Specify:	
20. Year installed:	
21. Other attributes:	
22. Specify the two materials being joined:	
22a. First material being joined:	
- If Other, Specify:	
22b. Second material being joined:	
- If Other, Specify:	
- If Other Pipe, Weld, or Joint Failure:	
23. Describe:	
Complete the following if any Pipe, Weld, or Joint Failure sub-cause is selected.	
24. Additional Factors (*select all that apply*):	
- Dent	
- Gouge	
- Pipe Bend	
- Arc Burn	
- Crack	
- Lack of Fusion	
- Lamination	
- Buckle	
- Wrinkle	
- Misalignment	
- Burnt Steel	
- Other	
25. Was the Incident a result of:	
- Construction defect	
Specify:	
- Material defect	

Specify:	
- If Other, Specify:	
- Design defect	
- Previous damage	
26. Has one or more pressure test been conducted since original construction at the point of the Incident?	
- If Yes:	
Most recent year tested:	
Test pressure:	
G6 - Equipment Failure - only one **sub-cause** can be selected from the shaded left-hand column	
Equipment Failure – Sub-Cause:	
- If Malfunction of Control/Relief Equipment:	
1. Specify:	
- Control Valve	
- Instrumentation	
- SCADA	
- Communications	
- Block Valve	
- Check Valve	
- Relief Valve	
- Power Failure	
- Stopple/Control Fitting	
- Pressure Regulator	
- Other	
- If Other, Specify:	
- If Threaded Connection Failure:	
2. Specify:	
- If Other, Specify:	
- If Non-threaded Connection Failure:	
3. Specify:	
- If Other, Specify:	
- If Valve:	
4. Specify:	
- If Other, Specify:	
4a. Valve type:	
4b. Manufactured by:	
4c. Year manufactured:	
- If Other Equipment Failure:	
5. Describe:	
G7 - Incorrect Operation - only one **sub-cause** can be selected from the shaded left-hand column	
Incorrect Operation Sub-Cause:	
- If Damage by Operator or Operator's Contractor NOT Related to Excavation and NOT due to Motorized Vehicle/Equipment Damage:	
- If Valve Left or Placed in Wrong Position, but NOT Resulting in an Overpressure:	
- If Pipeline or Equipment Overpressured:	
- If Equipment Not Installed Properly:	
- If Wrong Equipment Specified or Installed:	
- If "Other Incorrect Operation:	
1. Describe:	
Complete the following if any Incorrect Operation sub-cause is selected.	
2. Was this Incident related to: (select all that apply)	
- Inadequate procedure	
- No procedure established	
- Failure to follow procedure	
- Other	
- If Other, Describe:	
3. What category type was the activity that caused the Incident:	
4. Was the task(s) that led to the Incident identified as a covered task in your	

Operator Qualification Program?	
4a. If Yes, were the individuals performing the task(s) qualified for the task(s)?	

G8 - Other Incident Cause - only one **sub-cause** can be selected from the shaded left-hand column

Other Incident Cause – Sub-Cause:	Miscellaneous
- If Miscellaneous:	
1. Describe:	Operator employee punctured service line with probe bar while investigating odor call.
- If Unknown:	
2. Specify:	

PART H - NARRATIVE DESCRIPTION OF THE INCIDENT

Operator employee responded to odor call in basement of 453 Worthington St. After obtaining zero levels inside of building, employee began investigation outside. using probe bar employee struck and punctured service line causing gas to enter building. Released gas ultimately ignited, causing explosion.

File Full Name Note: The users have to sign in to view the attachment if there is no current user session.

PART I - PREPARER AND AUTHORIZED SIGNATURE

Preparer's Name	Brian P Normoyle
Preparer's Title	Operations Compliance Manager
Preparer's Telephone Number	508-836-7301
Preparer's E-mail Address	bnormoyle@nisource.com
Preparer's Facsimile Number	508-836-7070
Authorized Signature	
Authorize Signature's Name	Brian P Normoyle
Authorized Signature's Title	Operations Compliance Manager
Authorized Signature Telephone Number	508-836-7301
Authorized Signature's Email Address	bnormoyle@nisource.com
Date	12/02/2012

EXHIBIT 2

CMA Telephonic Report to Department of Public Utilities

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: December 10, 2012

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-1-4: Refer to the Operator's Emergency Plan, Section 4.10. Provide the notification time, notification number (the Operator called to the DPU), reporting personnel name, and incident details CMA provided to the Massachusetts Department of Public Utilities on November 23, 2012. Include in your response, a copy of the preliminary report, Form C 1540.

Response: CMA Logistics coordinator Patricia Kurey placed a telephone call to the DPU at 17:56 on November 23, 2012. Ms. Kurey left a voice message because that telephone was not answered. The Company is currently reviewing phone records to identify the number called and will supplement this response upon confirmation of that number.

A Form C 1540 was not completed for this incident.

EXHIBIT 3

Sequence of Events:

3(a) CMA Review and Analysis of Incident
3(b) Timelines and Sequence of Events
3(c) Witness Statements
3(d) CMA Call Center Transcript

Incident Review

Location of Incident: **453 Worthington St. Springfield, MA**
Date of Incident: **November 23, 2012**
Time of Incident: **17:25**
Number of Customers Involved: **1**
Did this incident merit review according to 49 CFR 192 Subpart L? **NO**
Did this incident merit review according to circumstance or performance related issues? **YES**
Name of Operations Center Manager: **Scott Ruble**
Name of Facilitator: **Brian Normoyle**
Was Preliminary Report, 1540C Completed? **NO**
Description of Incident – What actually happened?

While performing a leak investigation on an odor call at 453 Worthington St Springfield, first responding Utility Technician punctured a 1 ¼" IP plastic inserted service line with a bang bar. 55 PSI Gas released through bar-hole at foundation and into the basement of 453 Worthington. Gas in building eventually ignited, resulting in an explosion.

Scope of Review:

Determine if actions taken by employees prior to and following incident were appropriate and in accordance with CMA policies and procedures. Review lessons learned, current procedures and practices to determine adequacy and prevent reoccurrence.

Name of Employees Attending Review:

- Brian Normoyle, John Rooney, Christopher Warren, Michael Rokosz, Daniel Maslowski
- Brent Alexander, Gregory DeAngelo, Justin Carr

What could have been done to improve Incident Preparation?

- **Availability of tap card records to CMA Utility Worker General employees to identify service line information.**

What actions were taken?

Prior to explosion, response to odor call.: Technician dispatched to 453 Worthington Street Springfield based on call from that location's business manager Matt. The order was dispatched as odor in basement. Upon arrival, the first responding technician zeroed his CGI in free air and proceeded to the entrance of the business. CMA tech smelled a slight odor of gas outside the entrance way of the business. CMA tech was met by the business' manager Matt, who stated that they had been sensing gas outside and in the front entry way when the door was opened, then proceeded to show the CMA tech to the basement. CGI showed no readings in basement, at meter, piping, or around service line penetration through basement wall. CMA tech also observed a sofe, clay-like material surrounding the service line on the foundation. Seeing zero reads, and the fact that the odor of gas was more pronounced outside the building than that smelled in the basement, he made the decision to investigate outside the business.

CMA Technician checked a manhole located outside the front of business and his CGI registered zero. He retrieved his bang bar probe from his vehicle and returned to the entrance way of the building to pinpoint the origin of the odor. The technician observed a yellow marking on the sidewalk which he interpreted as a dig safe locate for the gas service. He displaced himself laterally, approximately 2 feet away from that yellow marking and put down his first bar-hole using his bang-bar tool, at the curb and street line. A reading of zero gas was obtained at that bar hole. He then went to the seam between the sidewalk and building foundation and made a second bar-hole, again staying approximately 2 feet to the side of that yellow marking. When the bang bar was extracted from the second hole, blowing gas was escaping. The technician had punctured the medium pressure service line and now had a blowing gas situation. The technician notified the logistics center of his situation and requested a distribution crew, and that he had blowing gas at the building and could not stop it. CMA technician proceeded inside the building ordering an evacuation, and went to the basement where he shut off the meter cock. He observed blowing gas around the service entrance in the basement. Tech made additional calls to logistics requesting Fire Department, and electric service shut off. Evacuations were completed and CGI reads of manholes were being performed while waiting for Distribution crew and additional help checking adjacent properties and substructures.

What was done well?

- **Incident response times by all responders**
- **Hazard recognition, and decision making to evacuate and protect life.**
- **Thorough survey of area to check for gas migration or damage to underground facilities as a result of the explosion.**
- **Communications. Excellent teamwork among CMA Leadership and Communications Department to keep the public, emergency responders, and incident investigators well informed and assured that the immediate hazard was eliminated and ensuring CMA's full cooperation.**

What improvements could be implemented?

- **Review / Revise procedures around utilization of bang bar tools for leak pinpointing.**
- **Review current tools used for leakage pinpointing.**
- **Training on bang-bar probe tool safety: depth of insertion, checking point (sharpness), locating facilities prior to bar-holing.**
- **Training on bang bar tool use: When to use a bang bar when performing a leak investigation.**
- **Review/Revise procedures allowing tech immediate on-site access to tap cards.**

What ideas were generated?

- **Distribution vehicle proved to withstand enormous force without toppling or moving and injuring those behind it. Columbia should continue to utilize that style / manufacturer of vehicle.**

Lessons learned

- **Locate underground facilities prior to bang barring for pinpointing.**
- **Inability to allow reliance on prior markings as accurately identifying underground structures**

3(b) Timeline and sequence of events

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: December 10, 2012

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-1-2: Provide a sequence of events from the initial odor call to when the Incident occurred. Include all records that demonstrate: (1) receipt time of the initial odor complaint; (2) the arrival time of first responder; (3) a detailed description of the actions the first responder initiated when he arrived at the scene before the line was damaged - and the length of time it took to perform these actions; (4) the time the first responder damaged the gas service; (5) the time the first responder notified Columbia Gas of the damaged facility (include recordings of this notification); (6) the time 453 Worthington Street was evacuated and the count of persons evacuated; (7) the time Dispatch notified the crew and supervisor(s) to report to the location of the damaged facility; (9) the time the Operator notified the Springfield Fire Department and Western Massachusetts Electric Company.

Response: Please see Attachment IR-PL-1-2 (a) for CMA's complete timeline related to this incident.

Regarding the specific times requested:

(1) CMA received the odor call at 15:25.

(2) Christopher Warren arrived on-site at 15:49.

(3) Please see Attachment IR-PL-1-2 (b) for the description of the actions taken by Christopher Warren prior to the line damage.

(4) – (6) Christopher Warren contacted Logistics at 16:11 to request a street crew for the gas leak. Attachment IR-PL-1-2 (c) is a transcript of the call. The recording is contained on the enclosed disk.

(7) Logistics contacted the Springfield Distribution Crew at 16:14.

(9) [sic] Logistics notified the Springfield Fire Department at 16:19 and the Western Massachusetts Electric Company at 16:23.

To: John Rooney

Fr: Jim Murphy

Re: 453 Worthington Street, Springfield, MA Incident November 23, 2012

December 6, 2012

As requested, here is the November 23, 2012 timeline for the above referenced incident. The times, unless otherwise noted, are time stamped in the Columbia Gas of Massachusetts Logistics office in Brockton, MA.

3:25pm: Received call reporting a "possible gas leak" at 453 Worthington Street, Springfield, MA. Caller's name "Matt."

3:29pm: Order dispatched to Service Technician Christopher Warren.

3:29pm: Christopher Warren goes on route to 453 Worthington Street, Springfield, MA.

3:49pm: Christopher Warren arrives on site at 453 Worthington Street, Springfield, MA.

4:11pm: Christopher Warren calls into Logistics Office requesting a street crew to respond as soon as possible to 453 Worthington Street, advising the service was leaking, he could not shut it off, and he had a blowing gas situation.

4:14pm: Logistics contacts Springfield Distribution Crew (Brent Alexander and Greg DeAngelo) and dispatches them to 453 Worthington Street Springfield, MA.

4:16pm: Logistics notifies Field Operations Leader Justin Carr.

4:18pm: Christopher Warren informs Logistics that he needs the Fire Department to respond as soon as possible.

4:19pm: Logistics notifies the Springfield Fire Department requesting Fire Department response to 453 Worthington Street as soon as possible for a gas leak.

4:23pm: Christopher Warren notifies Logistics to call the electric company.

4:23pm: Logistics notifies Connecticut Light & Power and requests that the electric power be turned off to 453 Worthington Street, Springfield, MA because of a gas leak. Logistics provided the cross street location and a contact telephone number.

4:26pm: Christopher Warren requests from Logistics the name of the FOL, informs Logistics that the Fire Department is on site, and the building is being evacuated. There is high pressure gas blowing in the basement.

4:42pm: Christopher Warren calls Logistics and requests additional technicians be dispatched to check the other buildings in the area. Informs Logistics less than twenty (20) people were evacuated.

4:44pm: Utility Worker Dan Maslowski informs Logistics he is en-route to 453 Worthington Street.

4:55pm: (According to Field Force Manager from the GPS on the Company issued cell telephone) Brent Alexander arrives on site at 453 Worthington Street, Springfield, MA.

5:20pm: (Approximate) Greg DeAngelo shuts off the curb valve to 453 Worthington Street.

5:27pm: Dan Maslowski calls Logistics and advises there has been an explosion. All CMA onsite personnel are accounted for.

5:34pm: Logistics utilized ARCOS and made an "All Hands on Deck" call. 139 calls made simultaneously.

5:42pm: Construction Leader Justin Carr calls Logistics and advises all responding support personnel report to the Springfield Operating Center not the incident location.

5:44pm: (Actual 9 minutes 37 seconds) eighteen (18) technicians accepted calls via ARCOS and eight additional technicians called to accept over the land line in Logistics. Total twenty-six (26).

5:56pm: Logistics called the Massachusetts Department of Public Utilities (DPU). Left message on voice mail regarding the incident.

6:00pm: Five (5) additional technicians call Logistics on the land line. Thirty-one (31) CMA Emergency Responders in total available.

6:05pm: (Approximately) Jorge Santi from the DPU called Logistics. Apparently saw the incident on the news.

6:20pm: (Approximately) Jim Murphy called Jorge Santi and reviewed the details as they were known. Jorge indicated he was headed to the incident location and will be joined by Angela Motley and possibly one other member from the DPU.

6:24pm: (Approximately) Brian Normoyle informed Jim Murphy he made a telephonic notification to the Department of Transportation.

7:00pm: (Approximately) Berkshire Gas called Logistics offering Mutual Aid if necessary. Contact them at (413)445-0230, 0231 if Mutual Aid is required.

8:00pm: (Approximately) Insurance carrier ESIS notified. Claim Number: 117354092

I did not document a timeline after 8:00pm. Please let me know if you have any questions.

Upon arrival at the scene, CMA employee Christopher Warren parked his vehicle and noted on his laptop his 15:49 arrival at 453 Worthington Street, Springfield, MA. Mr. Warren telephoned his contact, "Matt" and waited for Matt's arrival. Mr. Warren got out of his vehicle and prepared for his leak investigation. Mr. Warren turned on his Combustible Gas Indicator ("CGI") in the outside free air and zeroed the instrument. When Matt arrived, Matt told Mr. Warren that 453 Worthington Street had been experiencing an odor of gas outside the building near the front door, and they experienced the odor in the front hallway when the front door was opened. Mr. Warren detected a slight odor of natural gas outside the front of the building with his nose. Mr. Warren's CGI registered zero. Mr. Warren entered the building with Matt, went through the ladies room, and downstairs into the basement. The basement was dimly lit. Mr. Warren located the gas service line and observed the line surrounded by a soft, clay-like substance. With his CGI probe, Mr. Warren checked around the service line. His CGI registered zero. Mr. Warren tested the connections from the service entrance to the meter. His CGI registered zero. Based upon the odor of natural gas outside the building, information that the property had been experiencing a natural gas odor outside the building, the packing of the service line with a soft, clay-like material, and no readings of natural gas in the basement, Mr. Warren went up the stairs and began his outside leak investigation. Mr. Warren located a Western Massachusetts Electric Company manhole in front of the building and inserted his CGI probe into the vented top. His CGI registered zero. Mr. Warren observed a yellow marking on the sidewalk consistent with, and in line with, the inside meter he just previously observed. Mr. Warren went to his vehicle and got his barhole probe. With the yellow marking as his point of reference, Mr. Warren stepped off to the right of the line approximately two (2) feet and barholed between the curb and the street. A parked car in the area caused difficulty in barholing. Mr. Warren inserted the extended CGI probe into the barhole. His CGI registered zero. Mr. Warren walked to the foundation of the building and, using the yellow mark as his point of reference, stepped approximately two (2) feet to the right of the line and inserted his barhole between two (2) concrete slabs in the sidewalk next to the foundation of the building. Upon removal of his barhole probe, natural gas began to escape from the hole in the ground. Mr. Warren's best estimate is that twenty (20) minutes elapsed from the time of his arrival 453 Worthington Street to the time natural gas came out of the hole in the ground;

Transcript of call made by Chris Warren to Logistics at 16:11.

Ellie: Columbia Gas this is Ellie

Chris: Ellie its Chris Warren how ya doing?

Ellie: Hey Chris how are you?

Chris: Good, I need a Street Crew here as soon as possible.

Ellie: Okay, whatcha got?

Chris: I got blowing gas out of the ground inside this club, where they were smelling gas.

Ellie: Out of the ground

Chris: The service is leaking, right at the edge of the building

Ellie: Out of the ground?

Chris: I can't shut it off

Ellie: K I will send someone out there as soon as possible.

Chris: Thank you

Ellie: yup, thank you.

Chris: Bye

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: December 10, 2012

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-1-3: Provide a sequence of events and a description of the Incident. Include all records that demonstrate: (1) the time Columbia Gas crew and supervisor(s) arrived at the Incident; (2) the time Columbia Gas initiated an Emergency Notification to staff; (3) the time Western Massachusetts Electric Company arrived on the scene; (4) the time Western Massachusetts Electric Company turned off the electricity to 453 Worthington Street, Springfield; and (5) the time the Fire Department arrived on the scene.

Response: Please see Attachment IR-PL-1-2 for CMA's complete timeline related to this incident. CMA has requested, but has not as of the time of this filing, received the complete timeline from Western Massachusetts Electric Company regarding their timing. CMA will supplement this response when Western Massachusetts Electric Company's timeline is received.

Please see Attachment IR-PL-1-33 for the Springfield Fire Department's Report.

Regarding the specific times requested:

(1) Brent Alexander, Lead Operator, arrived on-site at 16:55.

(2) CMA initiated ARCOS notification at 17:34.

(3) CMA has been informed that Western Mass Electric arrived on-site at 17:14.

(4) CMA will provide this information as soon as it is available from Western Mass Electric.

(5) Based on the Springfield Fire Department Report (see Attachment IR-PL-1-33), the Fire Department arrived at 16:24.

My name is Chris Warren. I am 52 years old. Prior to being hired by Columbia Gas on July 21, 2008 as a Meter Tech, I worked as a locator for On Target.

At approximately 3:30 p.m., I was dispatched to the location on a call for an odor of gas. I parked in the parking lot and telephoned the property's contact person, "Matt," who was to meet me at the site. I waited a few minutes for Matt to arrive, and when he did, Matt said that they had been smelling gas for a while. As I stood in front of the building, I could detect an odor of gas. Matt and I entered the building, walked through the ladies room, and headed down into the basement.

As I entered the basement, my CGI continued to read "zero." I located the service line entering through the foundation and observed that the line was surrounded by a "clay-like material" that felt like soft clay. I detected a slight odor of gas in the basement. I used my CGI probe and checked the area where the service line entered the basement, the associated gas piping, the connections to the gas meter, and the gas meter. My CGI continued to register no readings in the area. I exited the building and located Western Mass. Electric Co. manholes in the street. I inserted my CGI probe into the manhole cover and once again, obtained no reading.

I observed a yellow gas mark on the sidewalk that appeared to be in line with the service I observed in the basement. I went to my truck and got a bang bar and, with the yellow line as my point of reference, stepped off to the side and bar-holed between the curb and the street. I had a difficult time with this first bar hole because of a parked car in the street. I inserted my CGI probe into the bar hole and got no reading.

Again, using the yellow line as his point of reference, I went closer to the building, stepped off to the side of the yellow line, and bar-holed between two sections of concrete

sidewalk near the edge of the building. I could not go down far at all and gas immediately came out. I called dispatch to tell them what happened

I entered the building and told the manager to immediately evacuate the building. I went back into the basement and turned the valve on the service line to the "off" position. I continued to clear people away from the evacuated building, interacted with the responding fire fighters, took CGI readings in numerous manholes, and made additional telephone calls to dispatch.

When the street crew arrived, I informed Brent Alexander what had occurred. I helped them locate the curb box. I assisted the street crew in blowing out debris in the curb box. The curb valve was shut off. The crew and I opened a number of manholes in the area.

I was directed by Brent Alexander to stand behind the truck. Everyone was behind the truck including someone from the City Water Department who was sitting on the ground in the area when the explosion occurred.

Chris Warren

Chris Warren

Date: 12-06-2012

My name is Matt Hubeny. On November 23, 20[illegible] I was the Property Manager of Scores Gentlemen's Club, 453 1/2 Worthington Street, Springfield, MA.

At Approximately 3:30 p.m I informed Columbia Gas Co. of a potential gas leak.

At Approximately 3:55 p.m. I was contacted by a Columbia Gas employee and met him at the Club at approximately 4:00 p.m. I told him that we had been experiencing an odor of gas outside the building and inside when the door opened. We went into the basement. He told me he had no gas readings and went outside to further investigate. I was on the corner of Worthington and Chestnut when the ~~explosion~~ happened

Dated 12-10-12

Matt Hubney

3(d) CMA Call Center transcript

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: December 10, 2012

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-1-5: Provide the time Columbia Gas received the odor complaint call from the residents of 453 Worthington Street, Springfield, and transcripts of all conversations between the Columbia Gas representative and the caller(s).

Response: CMA received a call from Matt, the manager of Scores, at 15:23. Attachment IR-PL-1-5 is a transcript of the call. The recording is contained on the enclosed disk.

Dispatch: Columbia gas emergency gas leak line this line is recorded

Matt: Yes hi I'm calling uh a possible gas leak at my business

Dispatch: What is the address?

Matt: 453 and a half Worthington street Springfield, Massachusetts

Dispatch: What's the name on the account?

Matt: Uhhhh the corporate name of the company is Sulisants or could be the DBA theatre uhh club 418 Lace or Scores. I don't know if they ever changed the DBA on it but the corporate name is Sulisants.

Dispatch: Okay, I'm only showing one site coming up at 453 Worthington and it's under BSC reality.

Matt: Oh yup that's our , that's the real-estate agent that real-estate it goes through, that's one of our company's. Ya I think I uh at the meters smells like there's a gas leak.

Dispatch: And what is your name?

Matt: My name is Matt, I'm one of the managers, property manager

Dispatch: And a call back phone number?

Matt: 413-626-5094

Dispatch: The odors at the gas meters?

Matt: Wha, uhhh, ya uhhh the gas meters in the basement, seems right above them are near the gas meters and they got a slight sense of gas

Dispatch: And what door are we going to come to for access front, back or side?

Matt: Uh front door on Worthington, if they want they can call me, I'm across the street, and they can call me, I'll be right over there, whenever they are in the neighborhood.

Dispatch: Okay, but so you're saying the address is 453 and a half Worthington?

Matt: Well, sometimes well that's what the postal address is, but sometimes it's posted as 453.

Dispatch: Okay

Matt: That could be the case.There nothing else around this place, nothing on both sides of it

Dispatch: Alright, I'll have someone there within the hour so please watch for them. Okay, they can't

Matt: I appreciate it. I understand.

Dispatch: Alright byebye

Matt: I understand thanks

(Hang up)

EXHIBIT 4

CMA Records of Gas Service Supplying 453 Worthington Street, Springfield

175 NICOLE

Distribution Work Order

Identification:

At House #	To House #	Street Name	Location Phone	Work Order #
453		WORTHINGTON ST		173460
	Lot #	Town	Work Phone	Initiated Date
		SPRINGFIELD		12/03/93
At Pole #	To Pole #	At Intersection	Customer Account #	Initiated Time
				0722
Kit and Grid #		To Intersection	CCS Number	Source
			147064-00-000	CCS SYSTEM
Customer Name			Entered By	Source Name
MIKES OF SPRINGFIELD			SCULLY	

Work:

Work Code	Work Description	Estimated Units	Scheduled Date
SNEOCB	SER-NEW-EXT CNST ON-COM-C	1	
		Leak Priority	Employee Assigned

Outgoing Comments

INSTALL NEW SERVICE INSERT
SPOKE TO [redacted]
SET A.M. 733-4051
NO SERVICE RECORD

Cause of Leak

Job Priority: MEDIUM

BSG Crew Assigned

Contr. Crew Assigned

Pipe Data:

	New Pipe		Exposed Pipe		Retired Pipe
Pipe Size	1.25	1¼		16"	
Pipe Type	PLASTIC	P.P.		C.S.	
Coat Type		—		B.	
Pressure	INTER-MED	T.P.			
Length	25	30'0"			
Cut		4X4			
Depth		4'0"		4"	
Year	1993				
Pipe Cond					
Coat Cond					
Pit Depth					
# of Fits					
Fit Size					
Rate Class	Q				

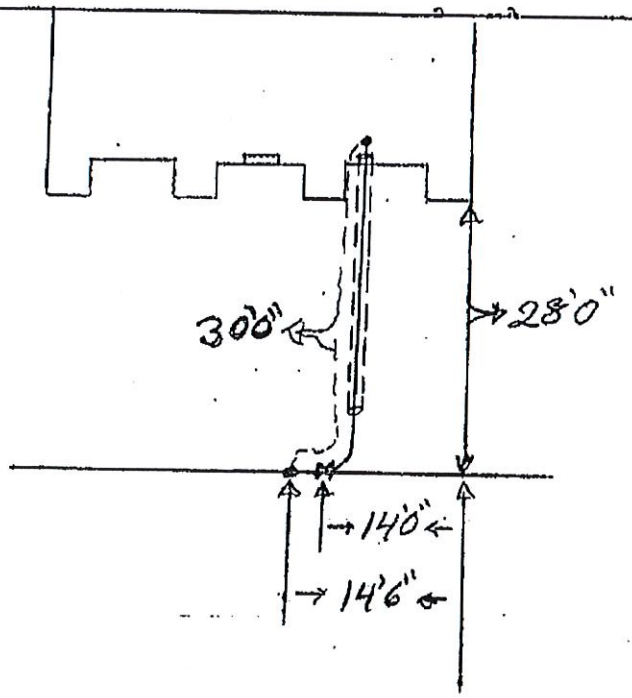
Other Data:

Anode Inst.	☒ Yes	☐ No
Flow Limiter Installed	☐ Yes	☒ No
Flow Limiter Tagged	☐ Yes	☒ No
Curb Cock Installed	☒ Yes	☐ No
Meter Barrier Installed	☐ Yes	☒ No
Meter Flt Installed	☐ Yes	☒ No
Inside	☒	
Outside	☐	
Soap Test	☒ Yes	☐ No
Pressure Test	☒ Yes	☐ No
Pounds Square Inch	90	
Elpsd. PSI Time	15	

Patch Needed ☒ Yes ☐ No | Patch Done ☒ Yes ☐ No | Is Work Billable ☐ Yes ☐ No

Enter Other Completion Information And Patch Information on Back

Sketch:



Line of Main

Materials Used

- 1¼x1¼x1¼ HP welded ST. tee
- 1¼ steel C.C.
- 445 = C. box
- 1¼x1¼ transition sleeve
- 3 lb anode
- 2"x1¼x1¼ poriloc collar tee
- 1" lock cock
- 300' of 1¼ P. pipe
- 58" warning tape

Restoration Data:

	Required	Done	Date Done
Sand			
Gravel			
Base Coat			
Cold Patch			
Hot Patch			
Emulsion			
Infra-Red			
Concrete			
Loam & Seed			

Size

Signature

Permit Data:

Dig Safe: Ticket # Date Effective

Notification:

Permit Required:

		Date Sent	Date Rec'd	Permit #
Town	☐			
State	☐			

Water Notification: ☑ Date Called 12-10

Sewer Notification: ☐ Date Called

Stamps:

Completion Data:

Comments: Kerax 2" ser. with 1¼ P. pipe

Completed Date: 12/18/93

Completed Units: 1

Signature: Jose Nicole

Distribution Work Order

Project I.D.

Identification:

At House	To House	Street Name	Location Phone	Work Order #
453	0	WORTHINGTON ST		6497409-1

Bldg. #	Unit #	Apt. #	Suite #	Town	Work Phone	Initiated Date
				SPRINGFIELD		03/06/2007

At Lot	To Lot	At Pole	To Pole	At Intersection	Customer Account #	Initiated Time
						11:57

Kit and Grid #	To Intersection	CCS Number	Source
		0-0-0	EMPLOYEE

Customer Name	Entered By	Digging Conditions	Source Name
			ZIEMBA DAVID M

Work:

Work Code	Work Description	Estimated Units	Scheduled Date
LRSX JCIX	~~SERVICE~~ - LEAK REPAIR	1	03/06/2007

Leak Priority	Employee Assigned
CLASS 1	TROLIO, NICOLA

Outgoing Comments: CHECK FOR 910

Cause of Leak	BSG Crew Assigned
joint	TRUCK 386

Dig Safe #	Contr. Crew Assigned

Job Priority:

Pipe Data:

	New Pipe	Exposed Pipe	Retired Pipe
Pipe Size		8"	
Pipe Type		CI	
Coat Type			
Pressure		LP	
Length			
Cut	S M L		S M L
Depth		40"	
Year		1930	
Pipe Cond.	LN - F - P - VP	LN - F - P - VP	LN - F - P - VP
Coat Cond.	G - MD - ED	G - MD - ED	G - MD - ED
Pit Depth			
# of Fits			
Fit Size			
Rate Class			

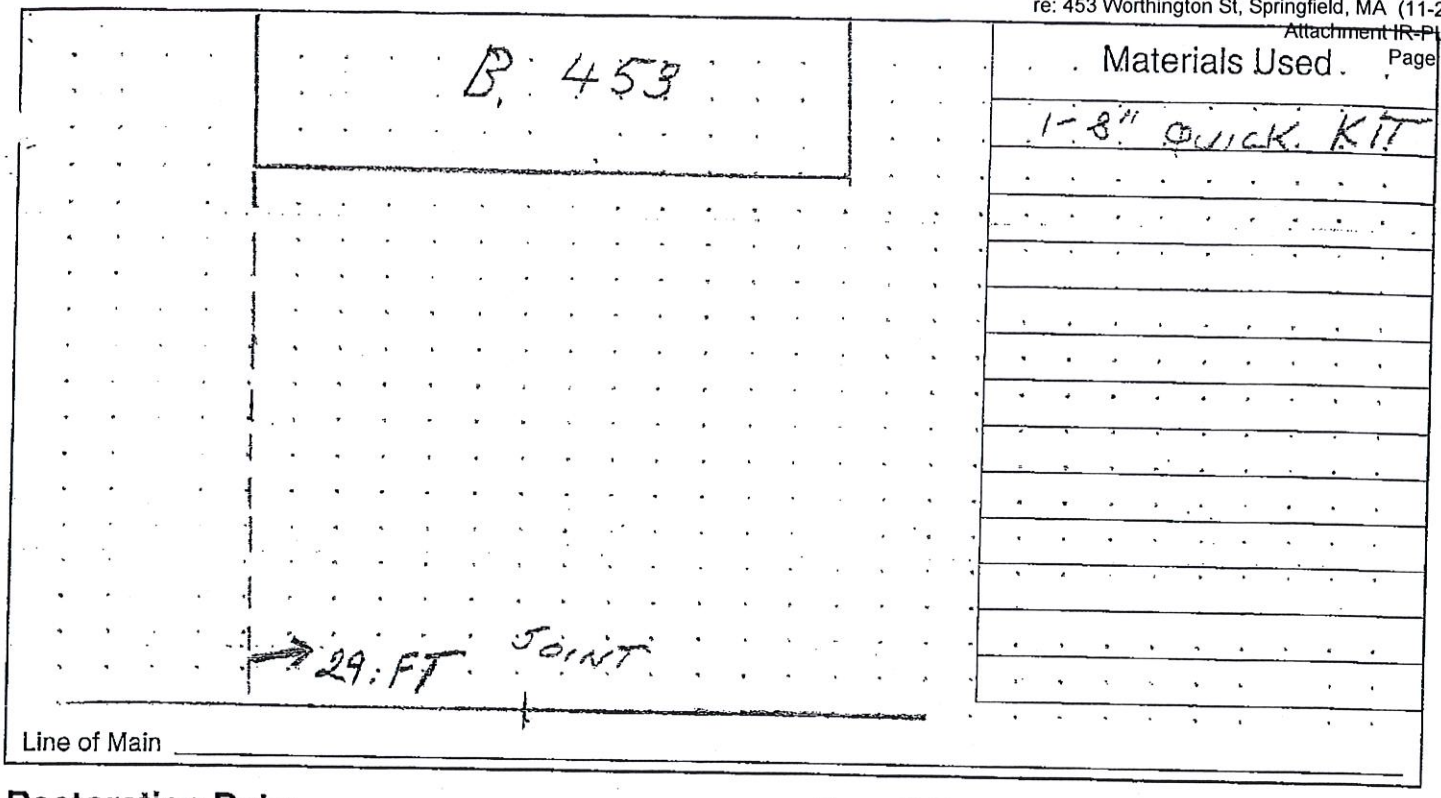
Other Data:

Anode Inst.	
Flow Limiter Installed	
Flow Limiter Tagged	
Curb Cock Installed	
Meter Barrier Installed	
Meter Fit Installed	
Inside	
Outside	
Soap Test	✓
Pressure Test	
Pounds/ Square Inch	
Elpsd. PSI Time	
Patch Size Length	
Width	

Restoration Needed ☐ Restoration Done ☐ Bill to Customer? ☐

Enter Other Completion Information And Restoration Information on Back

Sketch:



Restoration Data:

	Required	Done	Date Done
Sand			
Gravel			
Base Coat			
Cold Patch			
Hot Patch			
Flow Fill			
Infra-Red			
Concrete			
Loam & Seed			
Other		✓	DCP
Size			
Signature			

Permit Data:

Dig Safe: Ticket # Date Effective
Notification: _____ _____
_____ _____

Permit Required:

		Date Sent	Date Rec'd	Permit #
Town	☐			
State	☐			

Water Notification: ☐ Date Called_____

Sewer Notification: ☐ Date Called_____

Stamps:

Completion Data:

Comments: [illegible]

Completed Date: 3-12-07
Date Started: 3-12-07
Completed Units: 1
Signature: [illegible]

Distribution department
Daily Crew Sheet

Empl #	Name
386	TFlorio
1086	DEFORGE

Date	Vehicle #
3-12-07	386

Job	Work Order Number	Street #	Street Name	Town Code	Job Time	Pay Rate
	6497409-1	453	WORTHIGTON ST	SP	8	1
	6497409-1	453	WORTHIGTON ST	SP	1	1½

Total Hours Worked 9

Daily Work Comments

Job	Arrive	Depart	Work Description	Complete ?
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
Lunch	:	:		

SUPERVISOR APPROVAL

Distribution department
Daily Crew Sheet

Empl #	Name
386	TILDEN
1086	DEFORGE

Date	Vehicle #
3-6-07	386

Job	Work Order Number	Street #	Street Name	Town Code	Job Time	Pay Rate
	6467118-1	49	LYMAN ST	SH	2	1
	6497166	49	TOLCATT ST	SP	1	1
	6467118-1	49	LYMAN ST	SH	1	1
	6490409	453	WORTHINGTON ST	SP	½	1½
	"	453	WORTHINGTON ST	SP	2	1
	6448595	50	COLLEGE ST	SH	2	1

Total Hours Worked 8½

Daily Work Comments

Job	Arrive	Depart	Work Description	Complete ?
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
Lunch	:	:		

SUPERVISOR APPROVAL

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE SECOND SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: January 4, 2013

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-2-25: Refer to CMA response to IR PL 1-24. Ticket 175395102 (3/6/2007), comments note: "found .30% gas at wall called for street stan" and "service has been re-run 000.00% LEL." Provide a detailed explanation regarding CMA's activities on this date, including actions taken to address the conditions found and actions taken to eliminate the hazard.

Response: The work order (WO-175395102) (3/6/2007) submitted in response to IR-PL-1-24, was for a meter change-out on a periodic test interval. The meter technician discovered and reported a gas reading at the basement wall where he was working. The comment "service has been re-run" is not accurate. Attachment IR-PL-2-25 contains the WOMS Distribution order (WO-6497409) which was issued that same day for a distribution crew repair. On March 6, 2007, the distribution crew responded to 453 Worthington and made a temporary repair to make it safe. That same crew returned on March 12, 2007, to seal the leaking joint as noted on the WO-6497409. Attachment IR-PL-2-25, pages 3 and 4 of 4 contain copies of the distribution crew worksheets.

WORK ORDER

SPRINGFIELD

PUNCHED

NO. 2

DATE 8/27/80

TIME REC'D ______ AM PM

ACCOUNT OR AUTH. NO. 254-82

WORK AT In Front (NUMBER) 453 Worthington St. (STREET) 0 9 (TOWN CODE)

IS PERMIT REQ? ______ PICK-UP? ______
TOWN ☐ DATE SENT ______
STATE ☐ DATE REC'D ______

NAME ______ ACCT. NO. ______

BILL TO ______ BILL AMT. ______

PREP. BY DK REPORTED BY 3 A. Smith VIA 4

WORK OR CONDITIONS

Cut off service - 2" L.P. Service

NOTIFICATIONS
☐ ELECTRIC CO. ☐ WATER DEPT.
☐ TELEPHONE CO. ☐ SEWER DEPT.

GIVEN TO ______

WORK TO BE DONE BY: 1 COMPANY ☐ CONTRACTOR ...... Est. Cost. ______

WORK CODE 8 7
DISTRICT
PRIORITY 5
EST. MAN HRS.
NO. OF MEN

SIZE
PRESSURE
SIZE OR FIT
EST. FT. OR UNITS
SCHEDULED DATE

GIVEN TO ______
DISP. TO ______
BY ______
VIA ______
TIME ______ DATE ______

WORK DONE:

WORK CODE	SIZE	PIPE TYPE	PRES.	SOIL	FEET OR UNITS	CAUSE OF LEAK	EXISTING PIPE DATA: PIPE SIZE	PIPE COND.	PIPE TYPE	COATING TYPE	COATING COND.	YR. OF INST.
5709	2	BS	1	SA	30	9	3	83	BS	A	3	30
5709	2	BS	1	SA	30	9	3	83	BS	A	3	30
						9		8				
						9		8				

MEASUREMENTS

	FEET	IN.
SERVICE LGTH.		
TEE TO CURB S.O.		
SHUT OFF TO END		
COCK TO ANODE		

DEPTH OF	FEET	IN.
MAIN	3	00
SERVICE	3	00
PITS		

PATCH REQUIRED? NO SIZE —

SKETCH:
SER cut off mark in Road with Paint

EQUIPMENT	HOURS
BACKHOE	
WELDER	
C-6 COMPRESSOR	00
......	
......	
POLICE OFFICER	
TRUCK NO. 5-14	

CONTRACTOR
SERVICE CREW
MAIN CREW
PATCH CREW

METER FIT REM'D (YES NO) REG. REM'D (YES NO) METER FIT INS'L. (YES NO)

COMMENTS: Cut off SER.

material used #2 = 2" line cap

no further repair

LINE OF SERVICE ______
LINE OF MAIN ______

BY [illegible]
DATE 8-27-80

FOR OFFICE USE ONLY
REPORT ____ MF ____ RENEWAL ____ STUB ____ BILLING ____ POOR ____ NP ____
PIPE ____ DUP ____ ABAND. ____ BKWD ____ OTHER ____

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: December 10, 2012

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-1-38: Provide a copy of the pressure chart of the nearest regulator station servicing Worthington Street, on November 23, 2012.

Response: Please see Attachment IR-PL-1-38.

SCADA Report
RTU State:MASSACH RTU Name: BLIS RTU Owner: BSG_
RTU Description: BLS-Blis St. Station
From Calendar Date: 2012-11-15 To Calendar Date: 2012-11-25

Calendar Date	Calendar Hour	Current Reading	Average Reading	Maximum Reading	Minimum Reading
2012-11-22	0	53.33	53.33	53.33	53.33
2012-11-22	1	53.33	53.33	53.33	53.33
2012-11-22	2	53.33	53.33	53.33	53.33
2012-11-22	3	53.33	53.33	53.33	53.33
2012-11-22	4	53.33	53.33	53.33	53.33
2012-11-22	5	53.33	53.33	53.33	53.33
2012-11-22	6	53.33	53.33	53.33	53.33
2012-11-22	7	53.33	53.33	53.33	53.33
2012-11-22	8	53.33	53.33	53.33	53.33
2012-11-22	9	53.33	53.33	53.33	53.33
2012-11-22	10	53.33	53.33	53.33	53.33
2012-11-22	11	53.33	53.33	53.33	53.33
2012-11-22	12	53.33	53.33	53.33	53.33
2012-11-22	13	53.33	53.33	53.33	53.33
2012-11-22	14	53.33	53.33	53.33	53.33
2012-11-22	15	53.33	53.33	53.33	53.33
2012-11-22	16	53.33	53.33	53.33	53.33
2012-11-22	17	53.33	53.33	53.33	53.33
2012-11-22	18	53.33	53.33	53.33	53.33
2012-11-22	19	53.33	53.33	53.33	53.33
2012-11-22	20	53.33	53.33	53.33	53.33
2012-11-22	21	53.33	53.33	53.33	53.33
2012-11-22	22	53.33	53.33	53.33	53.33
2012-11-22	23	53.33	53.33	53.33	53.33
2012-11-23	0	53.33	53.33	53.33	53.33
2012-11-23	1	53.33	53.33	53.33	53.33
2012-11-23	2	53.33	53.33	53.33	53.33
2012-11-23	3	53.33	53.33	53.33	53.33
2012-11-23	4	53.33	53.33	53.33	53.33
2012-11-23	5	53.33	53.33	53.33	53.33
2012-11-23	6	53.33	53.33	53.33	53.33
2012-11-23	7	53.33	53.33	53.33	53.33
2012-11-23	8	53.33	53.33	53.33	53.33
2012-11-23	9	53.33	53.33	53.33	53.33
2012-11-23	10	53.33	53.33	53.33	53.33
2012-11-23	11	53.33	53.33	53.33	53.33
2012-11-23	12	53.33	53.33	53.33	53.33
2012-11-23	13	53.33	53.33	53.33	53.33
2012-11-23	14	53.33	53.33	53.33	53.33
2012-11-23	15	53.33	53.33	53.33	53.33
2012-11-23	16	53.33	53.33	53.33	53.33
2012-11-23	17	53.33	53.33	53.33	53.33
2012-11-23	18	53.33	53.33	53.33	53.33
2012-11-23	19	53.33	53.33	53.33	53.33
2012-11-23	20	53.33	53.33	53.33	53.33
2012-11-23	21	53.33	53.33	53.33	53.33
2012-11-23	22	53.33	53.33	53.33	53.33
2012-11-23	23	53.33	53.33	53.33	53.33
2012-11-24	0	53.33	53.33	53.33	53.33
2012-11-24	1	53.33	53.33	53.33	53.33
2012-11-24	2	53.33	53.33	53.33	53.33
2012-11-24	3	53.33	53.33	53.33	53.33
2012-11-24	4	53.33	53.33	53.33	53.33
2012-11-24	5	53.33	53.33	53.33	53.33

EXHIBIT 5

Photographs of Incident Area:

5(a) Aerial View of Incident Site

5(b) Ground View of Incident Site

5(c) The Damaged Gas Service Supplying 453 Worthington Street In Situ

5(d) The Damaged Gas Service with Probe Bar

5(e) The Gas Service Connected to the Gas Main in Worthington Street

5(f) The Faded Yellow Line in Relation to the Damaged Gas Service In Situ

5(g) Gas Service Regulator and Gas Meter

5(h) Gas Service Piping Inside 453 Worthington Street

Exhibit 5(a) - Aerial View of Incident Site

Exhibit 5(b) - Ground View of Incident Site

Exhibit 5(c) - The Damaged Gas Service Supplying 453 Washington Street In Situ

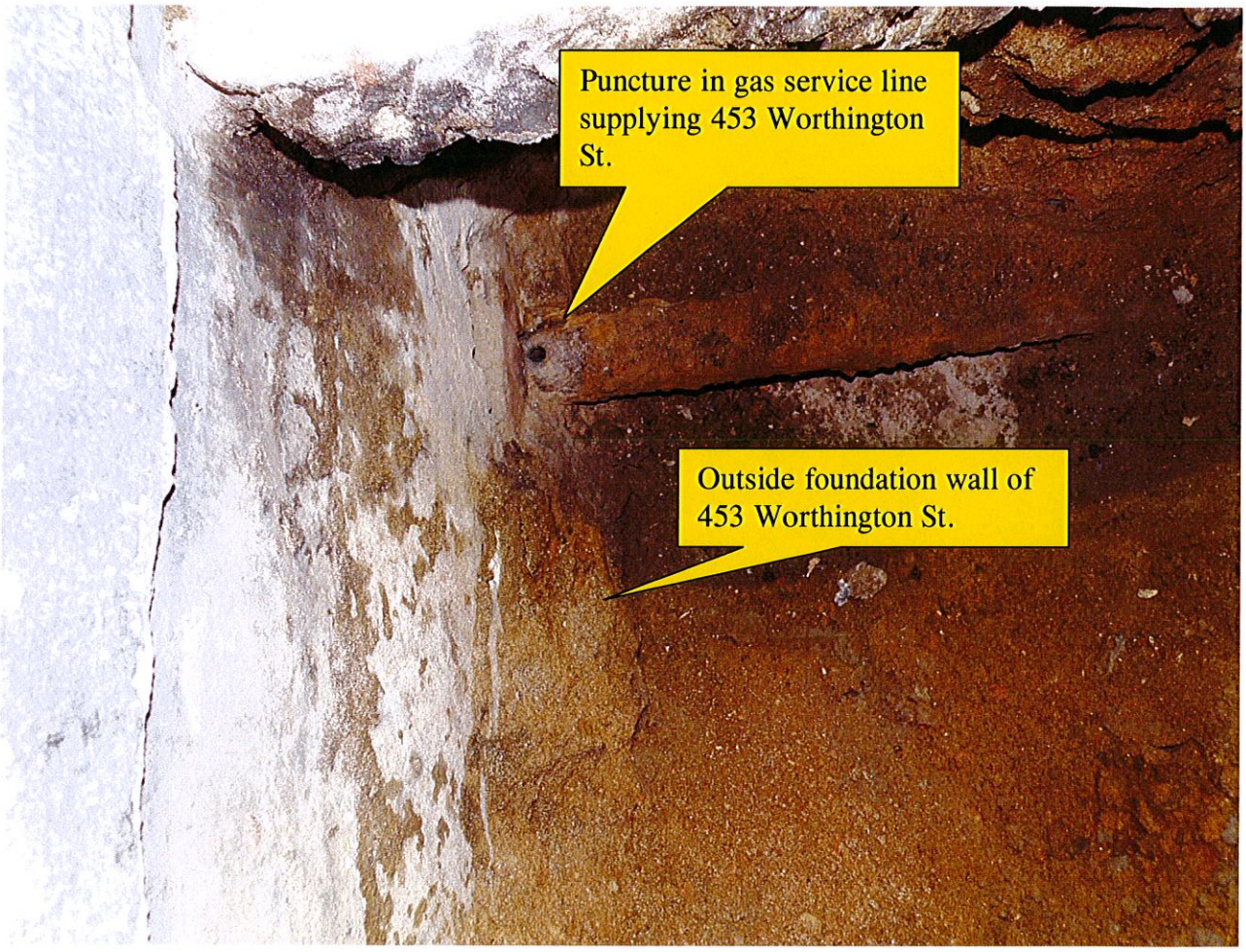


Exhibit 5(d) - The Damaged Gas Service With Probe Bar

Exhibit 5(e) - Gas Service Connected to the Gas Main in Worthington Street

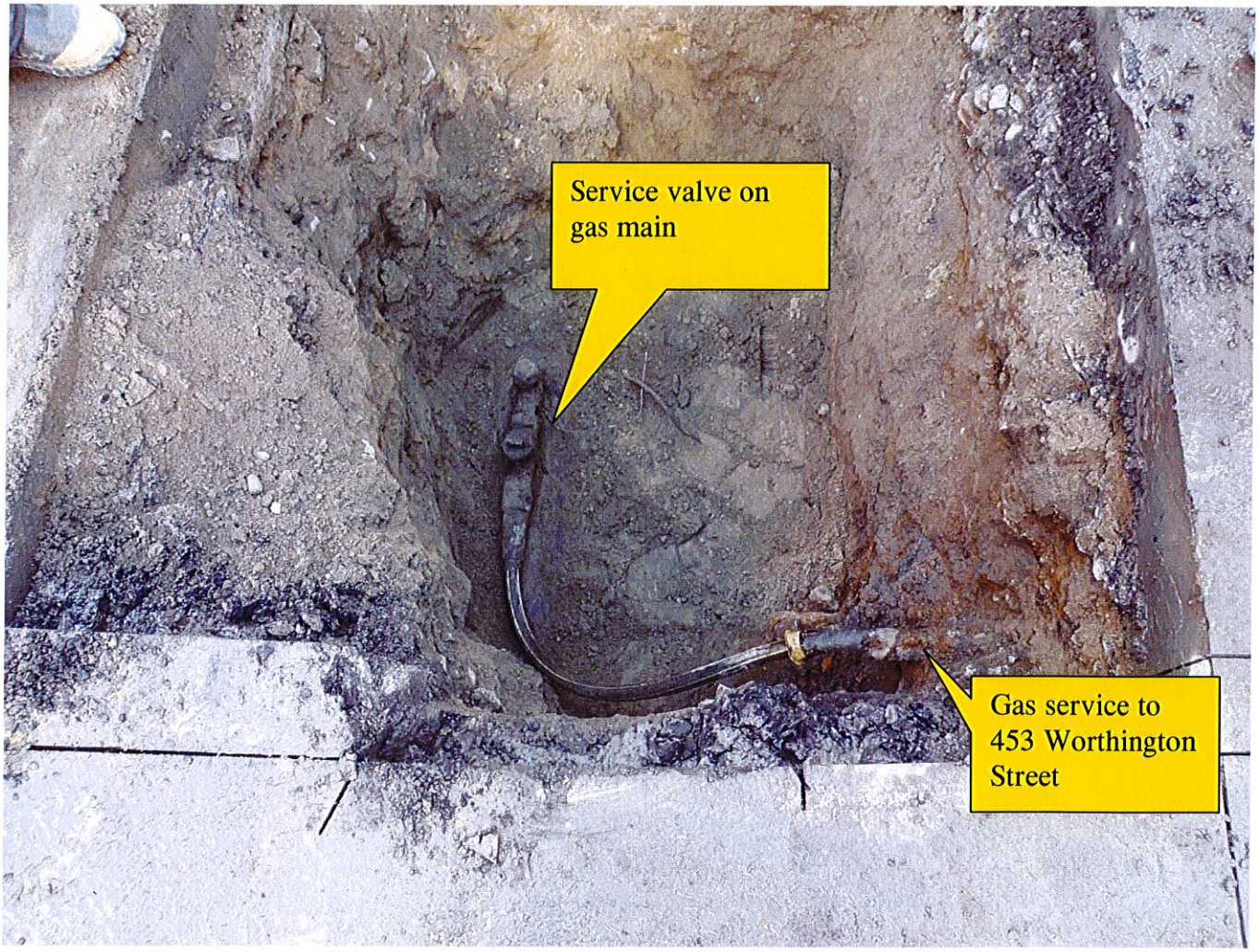


Exhibit 5(f) - The Faded Yellow Line In Relation to the Damaged Service Line In Situ

Exhibit 5(g) - Gas Service Regulator

Exhibit 5(g) – Gas Meter

Exhibit 5(h) - Gas Service Piping Inside 453 Worthington Street

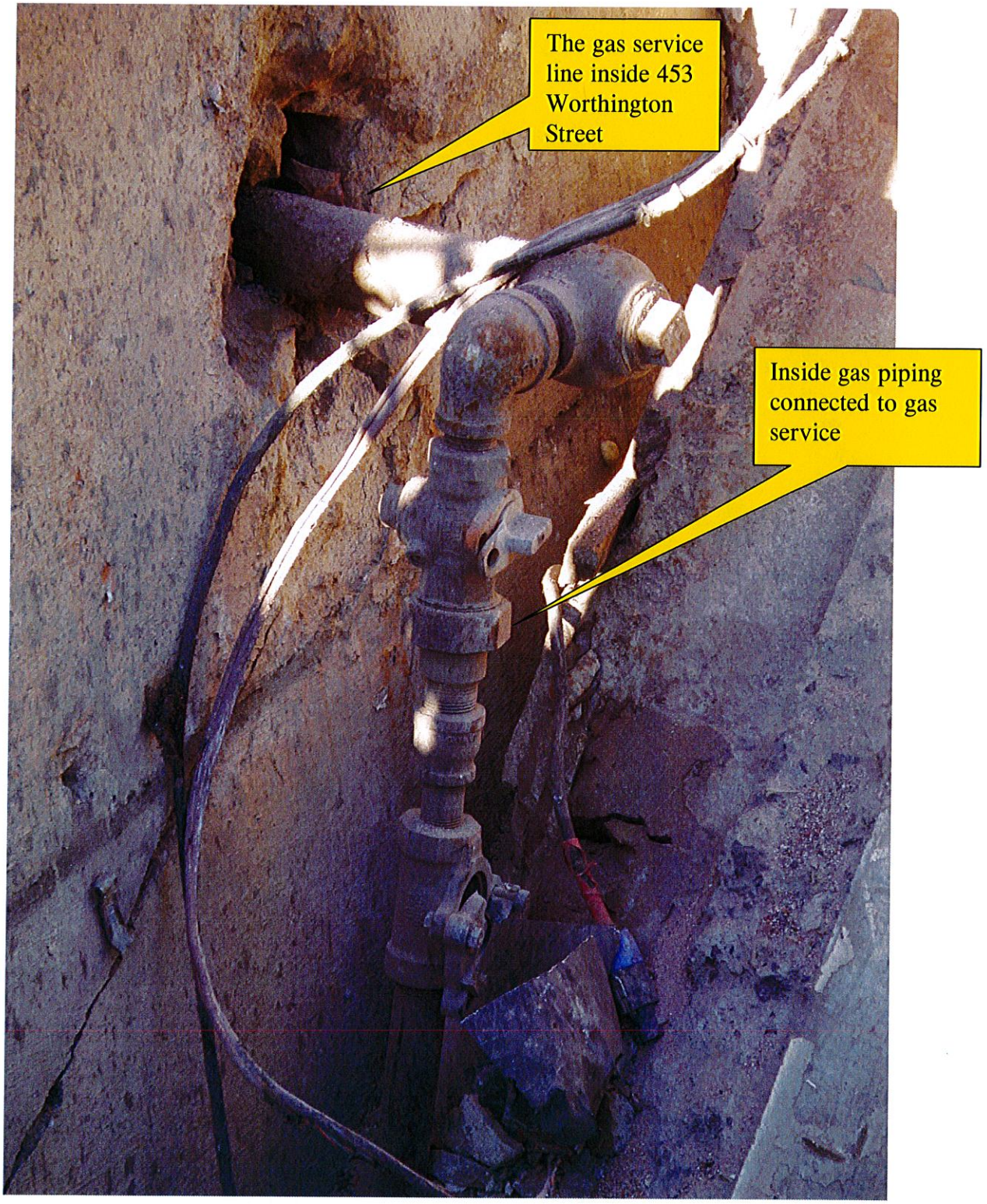


EXHIBIT 6

Records of Cast Iron and Steel Main Underlying Worthington Street

WORK ORDER

SPRINGFIELD

NO. 2 020323

DATE: May 1, 1980
TIME REC'D: AM PM

WORK AT: NUMBER — STREET: Worthington St. — TOWN CODE: 0 9

ACCOUNT OR AUTH. NO.: 3627-601

NAME: ACCT. NO.:
BILL TO: BILL AMT.:
PREP. BY: WB REPORTED BY: 3 CHE VIA: 4

IS PERMIT REQ? Yes PICK-UP?
TOWN: x DATE SENT:
STATE: DATE REC'D: Env. #4488

WORK OR CONDITIONS: Run a 16" main I.P. W.S. starting at 16" 90° weld bend 8' 0" W of E line of Alert St. 23' 0" S of N line of Worthington St. running 2125' [redacted] to 16" 30-40 DC (tie-in) 28'0" E of E line of E.Columbus Ave. 18' 0" S of N line of Worthington St.

NOTIFICATIONS: ELECTRIC CO. — TELEPHONE CO. — WATER DEPT. — SEWER DEPT.
GIVEN TO: H.K.

WORK TO BE DONE BY: ☐ COMPANY 2 CONTRACTOR: Hallen Est. Cost:

WORK CODE	M 2	SIZE	16	GIVEN TO	
DISTRICT		PRESSURE	2	DISP. TO	
PRIORITY	5	SIZE OR FIT		BY	
EST. MAN HRS.		EST. FT. OR UNITS	2125	VIA	
NO. OF MEN		SCHEDULED DATE		TIME / DATE	

WORK DONE:

WORK CODE	SIZE	PIPE TYPE	PRES.	SOIL	FEET OR UNITS	CAUSE OF LEAK	EXISTING PIPE DATA: SIZE	PIPE COND.	TYPE	COATING TYPE	COATING COND.	YR. OF INST.
M216	16	CS	2	FM / L	2124		16	8 1	CS	B	1	64

MEASUREMENTS

	FEET	IN.
SERVICE LGTH.		
TEE TO CURB S.O.		
SHUT OFF TO END		
COCK TO ANODE		

DEPTH OF	FEET	IN.
MAIN	3	06
SERVICE		
PITS		

EQUIPMENT	HOURS
BACKHOE	
WELDER	
COMPRESSOR	
POLICE OFFICER	
TRUCK NO.	

CONTRACTOR	
SERVICE CREW	
MAIN CREW	
PATCH CREW	

METER FIT REM'D YES NO — REG. REM'D YES NO — METER FIT INS'L YES NO

PATCH REQUIRED? SIZE

SKETCH:

RUN a 16 IP inch Main.
Starting at 16 inch 39-40 Dresser Sleeve
26 ft 3 in E of E line of East Columbus Ave
18 ft 6 in S of N line of Worthington St
Running 2124 east ft. to 16" 90° Bend
8 ft 0 in W of E line of Alert St
23 ft 0 in S of N line of Worthington St

COMMENTS: Install 16 IP Main fr existing 16 stl Worthington St to 90 Bend at Alert St

LINE OF SERVICE
LINE OF MAIN 16

BY Hallen DLS

FOR OFFICE USE ONLY
REPORT — MF — RENEWAL — STUB — BILLING — POOR — NP

Distribution Work Order

Project I.D.

Identification:

At House	To House	Street Name	Location Phone	Work Order #
453	0	WORTHINGTON ST		6497409-1

Bldg. #	Unit #	Apt. #	Suite #	Town	Work Phone	Initiated Date
				SPRINGFIELD		03/06/2007

At Lot	To Lot	At Pole	To Pole	At Intersection	Customer Account #	Initiated Time
						11:57

Kit and Grid #	To Intersection	CCS Number	Source
		0-0-0	EMPLOYEE

Customer Name	Entered By	Digging Conditions	Source Name
			ZIEMBA DAVID M

Work:

Work Code	Work Description	Estimated Units	Scheduled Date
LRSX SCIX	~~SERVICE~~ - LEAK REPAIR	1	03/06/2007

Leak Priority	Employee Assigned
CLASS 1	TROLIO, NICOLA

Outgoing Comments: CHECK FOR 910

Cause of Leak	BSG Crew Assigned
	TRUCK 386

Dig Safe #	Contr. Crew Assigned

Job Priority:

Pipe Data:

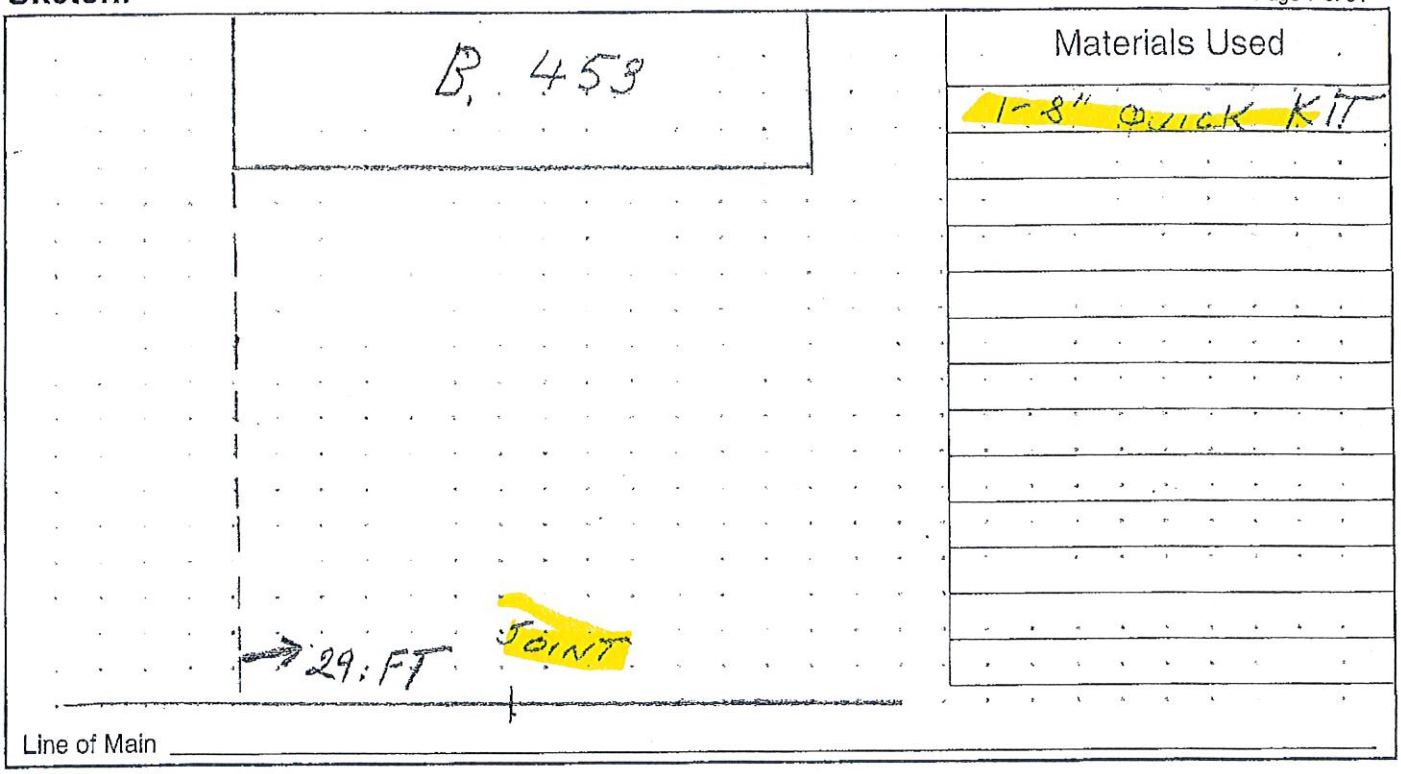
	New Pipe	Exposed Pipe	Retired Pipe
Pipe Size			
Pipe Type			
Coat Type			
Pressure		L-P	
Length			
Cut	S M L		S M L
Depth			
Year		1973	
Pipe Cond.	LN F P VP	LN F P VP	LN F P VP
Coat Cond.	G MD ED	G MD ED	G MD ED
Pit Depth			
# of Fits			
Fit Size			
Rate Class			

Restoration Needed ☐ Restoration Done ☐ Bill to Customer? ☐

Other Data:

Anode Inst.	☐
Flow Limiter Installed	☐
Flow Limiter Tagged	☐
Curb Cock Installed	☐
Meter Barrier Installed	☐
Meter Fit Installed	☐
Inside	☐
Outside	☐
Soap Test	☐
Pressure Test	☐
Pounds/ Square Inch	
Elpsd. PSI Time	
Patch Size Length	
Width	

Sketch:



Restoration Data:

	Required	Done	Date Done
Sand			
Gravel			
Base Coat			
Cold Patch			
Hot Patch			
Flow Fill			
Infra-Red			
Concrete			
Loam & Seed			
Other		✓	DCP
Size			
Signature			

Permit Data:

Dig Safe: Ticket # Date Effective

Notification: _____ _____

_____ _____

Permit Required:

		Date Sent	Date Rec'd	Permit #
Town	☐			
State	☐			

Water Notification: ☐ Date Called _____

Sewer Notification: ☐ Date Called _____

Stamps:

Completion Data:

Comments: QUICK KIT 1-8" JOINT LOCATED 29 FT W OF E B. 453

Completed Date: 8-12-13

Date Started: 8-12-13

Completed Units: 1

Signature: [signature]

Columbia Gas of Massachusetts
A NiSource Company

Distribution Work Order

Project I.D.

Identification:

At House	To House	Street Name	Location Phone	Work Order #
500	0	WORTHINGTON ST		7927279-1

Bldg. #	Unit #	Apt. #	Suite #	Town	Work Phone	Initiated Date
				SPRINGFIELD		01/06/2012

At Lot	To Lot	At Pole	To Pole	At Intersection	CMS #	Initiated Time
						11:22

Kit and Grid #	To Intersection	CCS Number	Source
		0-0-0	LEAK SURVEY

Customer Name	Entered By	Digging Conditions	Source Name

Work:

Work Code	Work Description	Estimated Units	Scheduled Date
LRSX	SERVICE - LEAK REPAIR		01/06/2012

COMPLETED
JC

Leak Priority	Employee Assigned
CLASS 1	BAKER, JOHN J

Outgoing Comments:
PER JOHN SAPELLI, 85% OVER SERVICE, AND 6% GAS INSIDE AT THE WALL
(Cross file) with Alert St

Cause of Leak	BSG Crew Assigned
	BAKER, JOHN CRE

Dig Safe #	Contr. Crew Assigned

Job Priority

Pipe Data:

	New Pipe		Exposed Pipe	Retired Pipe	Internal Insp.
Pipe Size			4"	4"	4"
Pipe Type			CI	CI	CI
Coat Type					
Pressure			Low	Low	Low
Length				120'	
Cut		S M L		S M L	
Depth			36"	36"	36"
Year			1930	1930	1930
Pipe Cond.		LN F P VP	LN F P VP	LN F P VP	LN F P VP
Coat Cond.		G MD ED	G MD ED	G MD ED	
Pit Depth					
# of Fits					
Fit Size					

Other Data:

	Yes	No
Anode Inst.		✓
Flow Limiter Installed		✓
Flow Limiter Tagged		✓
Curb Cock Installed		✓
Meter Barrier Installed		✓
Meter Fit Installed		✓

Inside Location: FBRL
Outside Location: FBRL

Soap Test	✓	
Pressure Test		✓
Pounds/ Square Inch		
Elpsd. PSI Time		

PLV Installation	Yes	No
		✓

Enter Other Completion Information And Restoration Information on Back

LS 001 2/11

Sketch:

CUT OFF Location
13' S OF N Line Worthington St
17' W OF W Line #500 Worthington St
11' E OF Electric Manhole
18'6" W OF E Line Albert St
18' E of Light Pole # 1695 / B22

4" C.I. Line Cap
3 RLs Wax Tape
4" wooden plug
3 lb Anode

T-CC: ____________

CC-Riser: ____________

Restoration Data:

	Required	Done	Size	Date Done
Base Coat				
Cold Patch				
Hot Patch	✓	✓	6x6	11/8/12
Infra-Red		✓		
Concrete				
Loam & Seed				
Other				

Permit Data:

Dig Safe Notification:

Ticket #	Date Effective

Permit Required:

		Date Sent	Date Rec'd	Permit #
Town	☐			
State	☐			

Water Notification: ☐ Date Called ____________

Sewer Notification: ☐ Date Called ____________

Completion Data:

Comments: Cut + Capped Main on Worthington St Heading N down Albert St Which Kills LP Main [illegible] Albert St [illegible]

Start Date: 11/6/12

Completed Date: 11/10/12

Completed Units: 1

Signature: [illegible]

Employee #: 0793

Manual Distribution Work Order

Project I.D.

Identification:

At House	To House	Street Name	Location Phone	Work Order #
500		Worthington St		7930306

Bldg. #	Unit #	Apt. #	Suite #	Town	Work Phone	Initiated Date
				Spfld		1/10/12

At Lot	To Lot	At Pole	To Pole	At Intersection	CMS #	Initiated Time
33/34				Alert St		

Kit and Grid #	To Intersection	CCS Number	Source

Customer Name	Entered By	Digging Conditions	Source Name

Work:

Work Code: JCK

Work Description: Completed SP

Estimated Units:

Scheduled Date:

Leak Priority:

Employee Assigned: Baker

Outgoing Comments: Clamped 4" Joint on Tee At Main Cut off

Cause of Leak:

BSG Crew Assigned: 2377

Dig Safe #:

Contr. Crew Assigned:

Job Priority:

Pipe Data:

	New Pipe		Exposed Pipe	Retired Pipe	Internal Insp.
Pipe Size			4"		
Pipe Type			CI		
Coat Type			—		
Pressure			Low		
Length					
Cut		S M L		S M L	
Depth			40"		
Year			1980		
Pipe Cond.		LN - F - P - VP	LN - F - P - VP	LN - F - P - VP	LN - F - P - VP
Coat Cond.		G - MD - ED	G - MD - ED	G - MD - ED	
Pit Depth					
# of Fits					
Fit Size					

Other Data:

	Yes	No
Anode Inst.		✓
Flow Limiter Installed		✓
Flow Limiter Tagged		✓
Curb Cock Installed		✓
Meter Barrier Installed		✓
Meter Fit Installed		✓

Inside Location: F B R L

Outside Location: F B R L ✓

Soap Test	✓	
Pressure Test		✓
Pounds/ Square Inch	—	
Elpsd. PSI Time	—	

PLV Installation	Yes	No
		✓

Sketch:

Clamp location

15' S of N Line Worthington St
18'6" W of E Line Alert St
11' E of Electric Manhole
9' S of Electric Manhole

Materials Used

4" Kwi-Kot

T-CC: _____

CC-Riser: _____

Restoration Data:

	Required	Done	Size	Date Done
Base Coat		✓	5'x5'	1/10/12
Cold Patch		✓		
Hot Patch				
Infra-Red				
Concrete				
Loam & Seed				
Other				

Permit Data:

Dig Safe: Ticket # Date Effective

Notification: _____ _____

_____ _____

Permit Required:

		Date Sent	Date Rec'd	Permit #
Town	☐			
State	☐			

Water Notification: ☐ Date Called _____

Sewer Notification: ☐ Date Called _____

Completion Data:

Comments: Clamped 4" Joint on Tee at Main Cut off

Start Date: 1/9/12

Completed Date: 1/10/12

Completed Units: 1

Signature: [signature]

Employee #: 0793

EXHIBIT 7

CMA Facilities' Markout Completion Report
454 Worthington Street, August 18, 2011

Folder: Gary Whalen; Assigned To: Gary Whalen

```
--===SEE46899949492366===MIX===
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain

(DIG SAFE SYSTEM, INC - MA)   08/18/2011   12:18:50

     -AB               -AJ               -GM               -J8
     -ML               -NE               -ON               -QC
     -RJ               -SV               -US             49-WG  CMAGAS
     -WM
--------------------------------------------------------------------------------

***** EMERGENCY *****

TIME..12:18  DATE..08/18/2011

REQUEST NO...20113408026

STATE.........MASSACHUSETTS
MUNICIPALITY..SPRINGFIELD

ADDRESS..454
STREET...WORTHINGTON ST

NEAREST CROSS STREET 1..CHESTNUT ST
NEAREST CROSS STREET 2..FAIRBANKS PL


--------------------------------------------------------------------------------
NATURE OF WORK..EMERG ELEC  CABLE FAULT REPAIR

EXTENT OF WORK
IN THE ST & SDWALK AREA
CREW IS ONSITE

AREA IS PREMARKED..YES
--------------------------------------------------------------------------------
START DATE......08/18/2011  START TIME..13:00

CALLER..........GENE ROUSSEAU
TITLE...........OWNER
RETURN CALL.....ANY TIME
PHONE #.........413-736-7176
FAX #...........413-739-4569
ALT. PHONE #....413-531-9497
EMAIL ADDRESS...
CONTRACTOR......ROUSSEAU BROS INC
ADDRESS.........32 WISHING WELL WY
CITY............W. SPRINGFIELD
STATE...........MA
ZIP.............01089
EXCAVATOR DOING WORK..SAME


--===SEE46899949492366===MIX====--
```

Audit History:

8/18/2011 12:20:04 PM: Received

DETAILS: Ticket received for registration code WG

8/18/2011 12:20:04 PM: County Assumed

DETAILS: County *HAMPDEN* was assumed because only one place *SPRINGFIELD* was found in the state of *MA*.

8/18/2011 12:20:04 PM: Ticket Queued

DETAILS: Ticket queued for delivery

8/18/2011 12:20:07 PM: Ticket Delivered

DETAILS: Ticket successfully sent to dsperry@nisource.com

8/18/2011 12:22:12 PM: Put in Folder

DETAILS: Put in Gary Whalen by digsafe digsafe

8/18/2011 12:22:12 PM: Assigned

DETAILS: Assigned to Gary Whalen by digsafe digsafe

NOTE: Assigned on folder placement

8/18/2011 1:47:28 PM: Responded

DETAILS: marked in field: added by Gary Whalen, Locate Time: 8/18/2011 1:20:22 PM, Units of Work: 1.00

NOTE: p 2 mains, no active rec's of svc found, per off. mgr, they use oil

EXHIBIT 8

CMA Witness Statements

My name is Brent Alexander. I am 58 years old. I have worked for Columbia Gas for 39 years. My title is "Lead Operator" and my normal work shift is 7:00 a.m – 3:30 p.m. Monday through Friday.

On November 23, 2012 I worked my normal hours and I was also on "stand by." At approximately 4:15 p.m., I was on my way home when I got a call from dispatch and was informed that there was gas blowing into the building at 453 Worthington Street and Chris Warren was at the location. I returned to the Springfield facility, got into my Crew truck, and rode to the scene with Greg DeAngelo. When I arrived on the scene, Chris Warren explained to me that there was blowing gas around the service in the basement of 453 Worthington Street.

I looked for the curb box in the street and located one that I believed serviced the building. My crew and I blew out debris from the curb box with air. When I was able to see the valve, it appeared to be in the "closed" position in relationship to the main. I went to my truck, pulled up the map to the location on my laptop, and discovered that the service line came off the main in a 90 degree angle. I yelled to Greg DeAngelo to turn it off, which Greg did. I also told the crew to pull the manholes in the street as they were getting gas readings of 90%. After the service line was shut down, and the manhole covers had been pulled, the manhole gas readings vented to zero.

The entire crew went to the bar hole area near the foundation and the first CGI reading was 57% which immediately dropped to 51%. Seeing this drop in the gas level prompted me to immediately order everyone to get behind the truck. The explosion then occurred.

Brent Alexander 12-5-12

Brent Alexander

My name is Dan Maslowski. I am 47 years old. I have worked at Columbia Gas for 21 years. I am currently a Utility Worker – General. My normal working hours are noon – 8:30 p.m., Monday through Friday.

On November 23, 2012, I saw Brent Alexander driving in the Springfield yard. He informed me that "Chris" had a gas leak. I determined that it was Chris Warren so I called Chris and left a message. Chris called me back and said that he had gas in the building and the Fire Department was on site.

I headed out to Worthington Street. When I arrived, the Fire Department had the area blocked off. I spoke to Chris Warren and then began to test gas readings in manholes. Brent Alexander arrived and I assisted with the air hose used to clear debris out of the valve box. I continued to check gas readings in manholes toward Chestnut Street. I went back to 453 Worthington Street as gas readings near the building were being taken. Brent Alexander told us to get behind the truck. The explosion then occurred.

Dan Maslowski

Dan Maslowski

Dated: 12-5-2012

My name is Greg DeAngelo. I am 58 years old. I have worked at Columbia Gas for 22 years. I am currently employed by Columbia Gas as a Utility Worker.

My normal working hours are 6:00 a.m. – 2:30 p.m. Monday through Friday. On Friday, November 23, 2012, I was on vacation but was on "stand by." I received a call at approximately 4:15 p.m. from the Integration Center and was told that gas was blowing into a building and that Brent Alexander would meet me in the yard.

I immediately left my home and traveled approximately 8 miles to the Springfield yard. I rode in the truck with Brent to Worthington Street. When we arrived, we located and blew out debris from the curb box. The valve appeared to be already in a closed position, and Brent went to a reference map in the truck and he then yelled for me to turn the valve, which I did.

Other Columbia Gas Utility Workers informed us that they were getting approximately 90% gas readings in the manholes, and I told Brent I would begin popping covers, which I did. Thereafter Brent instructed all of us to get behind the truck, which we did, and the explosion occurred.

Greg DeAngelo

Greg DeAngelo

Dated: 12-4-12

My name is Mike Rokosz. I am 42 years old. I was hired by Columbia Gas Company in 2006 as a Locator Technician and am currently a Utility Worker. My normal working hours are from noon - 8:30 p.m. Tuesday through Friday, and Saturday from 8:00 a.m. - 4:30 p.m.

On November 23, 2012 at approximately 4:30 p.m., I was on duty when I got a call from the Integration Center requesting assistance on Worthington Street for a gas leak. When I arrived, Brent Alexander, Chris Warren, Justin Carr, Greg DeAngelo and Dan Maslowski were already at the scene. I was requested to check gas reading levels in manholes, which I did. Brent Alexander directed all of us to get behind the company truck and thereafter the explosion occurred.

Mike Rokosz

Dated: 12/04/12

My name is Justin Carr. I am 31 years old. I have been employed by Columbia Gas for approximately five years, and am currently a Construction Supervisor. My normal business hours are 7:00 a.m. – 3:30 p.m. Monday through Friday.

On November 23, 2012, I was the on call supervisor. At approximately 4:20 p.m., I got a call from dispatch informing me Chris Warren had a leak and Crew Chief Brent Alexander and Greg DeAngelo were on their way to the scene. Approximately ten minutes later, I received a call from Chris Warren, advising me he had just evacuated a night club and the Fire Department was on the scene.

I arrived at Worthington Street shortly before 5:00 p.m. Upon arrival, I was briefed on the activities of CMA employees, and was informed about the extent of the evacuation. The Springfield Fire Department was further evacuating the area. I was told the electric company had been called to cut the power. Brent Alexander's crew was blowing out a curb box. It appeared that the valve was in the closed position, so Brent and I reviewed the service maps for the area and determined that the valve was in the "on" position. Greg DeAngelo was instructed to turn the valve off. I observed technicians obtaining gas readings from the manholes and was informed that the gas readings were venting down. When the electric company arrived, they spoke directly with the Fire Department near the intersection of Worthington Street and Chestnut Street. I was with CMA employees and an employee of the City of Springfield Water Department behind the Columbia Gas truck at the time of the explosion.

Justin Carr

Dated: 12/10/12

EXHIBIT 9

Drug and Alcohol Test Results (redacted)

- Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response	
- Investigation identified areas other than those above	
Describe:	

PART F - DRUG & ALCOHOL TESTING INFORMATION

1. As a result of this Incident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	Yes
- If Yes:	
1a. Specify how many were tested:	6
1b. Specify how many failed:	0
2. As a result of this Incident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
2a. Specify how many were tested:	
2b. Specify how many failed:	

PART G - CAUSE INFORMATION

Select only one box from PART G in shaded column on left representing the Apparent Cause of the Incident, and answer the questions on the right. Describe secondary, contributing, or root causes of the Incident in the narrative (PART H).

Apparent Cause:	G8 - Other Incident Cause

G1 - Corrosion Failure – only one sub-cause can be picked from shaded left-hand column

Corrosion Failure Sub-Cause:	
- If External Corrosion:	
1. Results of visual examination:	
- If Other, Specify:	
2. Type of corrosion:	
- Galvanic	
- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other	
- If Other, Describe:	
3. The type(s) of corrosion selected in Question 2 is based on the following:	
- Field examination	
- Determined by metallurgical analysis	
- Other	
- If Other, Describe:	
4. Was the failed item buried under the ground?	
- If Yes:	
4a. Was failed item considered to be under cathodic protection at the time of the incident?	
- If Yes, Year protection started:	
4b. Was shielding, tenting, or disbonding of coating evident at the point of the incident?	
4c. Has one or more Cathodic Protection Survey been conducted at the point of the incident?	
If "Yes, CP Annual Survey" – Most recent year conducted:	
If "Yes, Close Interval Survey" – Most recent year conducted:	
If "Yes, Other CP Survey" – Most recent year conducted:	
- If No:	
4d. Was the failed item externally coated or painted?	
5. Was there observable damage to the coating or paint in the vicinity of the corrosion?	
6. Pipeline coating type, if steel pipe is involved:	
- If Other, Describe:	
- If Internal Corrosion:	
7. Results of visual examination:	
- If Other, Describe:	
8. Cause of corrosion *(select all that apply)*:	
- Corrosive Commodity	

EXHIBIT 10

CMA First Responder Record of Prior Damages to Facilities

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: December 10, 2012

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-1-11: In the last three years, has the first responder, damaged any other company operated facilities (services or mains) as a result of leakage survey investigations? Provide all records for damages that CMA identifies.

Response: CMA has no record of Christopher Warren damaging Company facilities during his employment with CMA.

EXHIBIT 11

Post Incident Odorant Test Results

Date 11/23/12

Columbia Gas of Massachusetts
Springfield Division
Odorant Test Point

DOT 192.625
Revised 8/5/08

Employee Signature _____ Employee # 121709

Town SPRINGFIELD

Address 352 WORTHINGTON ST

Time: 6:00 AM (PM)

% Gas / Air readily perceptible .03%

Recheck: (YES) NO

Instrument Used:

Make BACHRACH

Model —

Serial # HZ1025

CODE OF MASSACHUSETTS REGULATIONS, 101.06 (20), STATES THAT A READING OF .15% OR LESS GAS IN AIR IS READILY PERCEPTIBLE TO THE NORMAL OR AVERAGE OLFACTORY SENSES.

EXHIBIT 12

Repairs at 453 Worthington Street, March 12, 2007

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE SECOND SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: January 4, 2013

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-2-25: Refer to CMA response to IR PL 1-24. Ticket 175395102 (3/6/2007), comments note: "found .30% gas at wall called for street stan" and "service has been re-run 000.00% LEL." Provide a detailed explanation regarding CMA's activities on this date, including actions taken to address the conditions found and actions taken to eliminate the hazard.

Response: The work order (WO-175395102) (3/6/2007) submitted in response to IR-PL-1-24, was for a meter change-out on a periodic test interval. The meter technician discovered and reported a gas reading at the basement wall where he was working. The comment "service has been re-run" is not accurate. Attachment IR-PL-2-25 contains the WOMS Distribution order (WO-6497409) which was issued that same day for a distribution crew repair. On March 6, 2007, the distribution crew responded to 453 Worthington and made a temporary repair to make it safe. That same crew returned on March 12, 2007, to seal the leaking joint as noted on the WO-6497409. Attachment IR-PL-2-25, pages 3 and 4 of 4 contain copies of the distribution crew worksheets.

Distribution Work Order

Project I.D.

Identification:

At House	To House	Street Name	Location Phone	Work Order #
453	0	WORTHINGTON ST		6497409-1

Bldg. #	Unit #	Apt. #	Suite #	Town	Work Phone	Initiated Date
				SPRINGFIELD		03/06/2007

At Lot	To Lot	At Pole	To Pole	At Intersection	Customer Account #	Initiated Time
						11:57

Kit and Grid #	To Intersection	CCS Number	Source
		0-0-0	EMPLOYEE

Customer Name	Entered By	Digging Conditions	Source Name
			ZIEMBA DAVID M

Work:

Work Code	Work Description	Estimated Units	Scheduled Date
LRSX JCIX	~~SERVICE~~ - LEAK REPAIR	1	03/06/2007

Leak Priority	Employee Assigned
CLASS 1	TROLIO, NICOLA

Outgoing Comments	Cause of Leak	PSG Crew Assigned
CHECK FOR 910	3.N3	TRUCK 386

Dig Safe #	Contr. Crew Assigned

Job Priority

Pipe Data:

	New Pipe	Exposed Pipe	Retired Pipe
Pipe Size		8"	
Pipe Type		CI	
Coat Type			
Pressure		LP	
Length			
Cut	S M L		S M L
Depth		40"	
Year		1930	
Pipe Cond.	LN - F - P - VP	LN - F - P - VP	LN - F - P - VP
Coat Cond.	G - MD - ED	G - MD - ED	G - MD - ED
Pit Depth			
# of Fits			
Fit Size			
Rate Class			

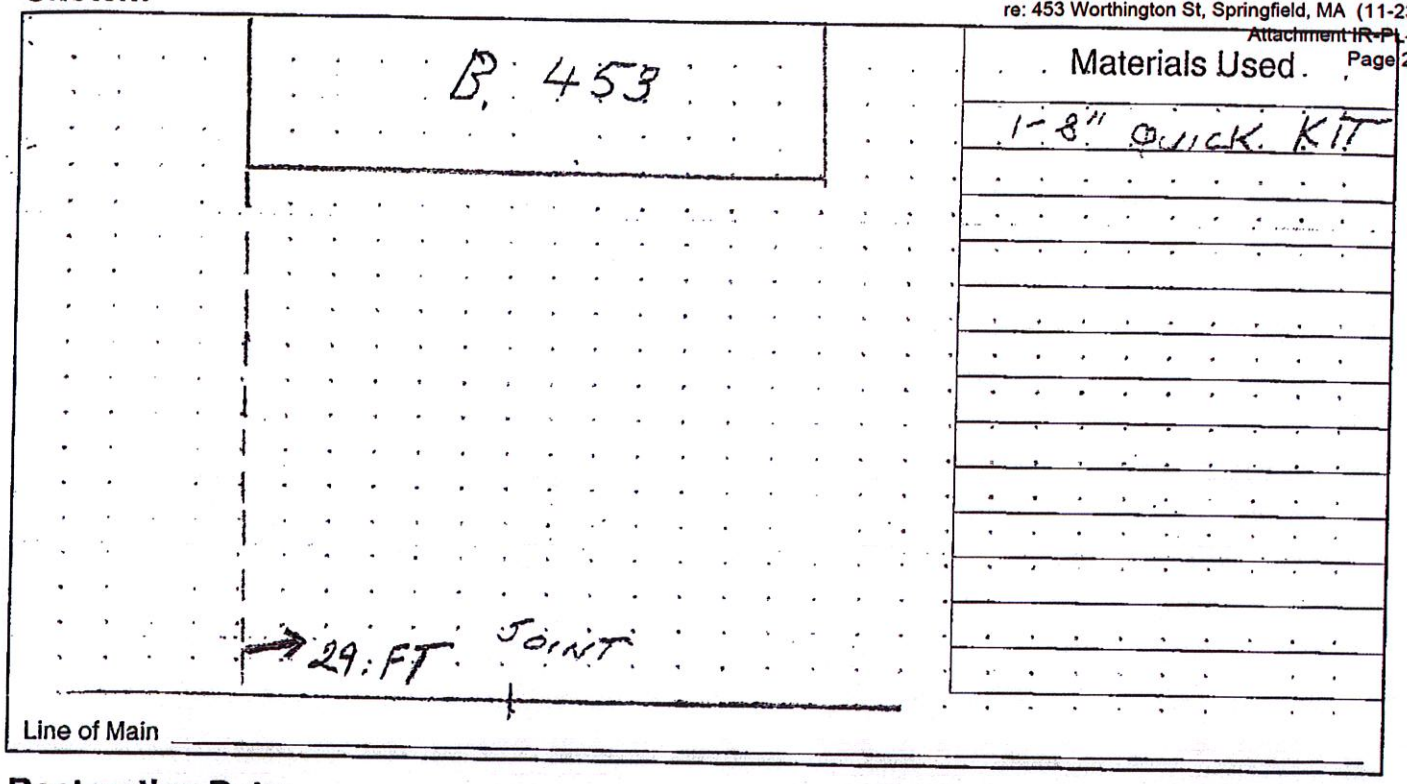
Other Data:

Anode Inst.	
Flow Limiter Installed	
Flow Limiter Tagged	
Curb Cock Installed	
Meter Barrier Installed	
Meter Fit Installed	
Inside	
Outside	
Soap Test	✓
Pressure Test	
Pounds/ Square Inch	
Elpsd. PSI Time	
Patch Size Length	
Width	

Restoration Needed	Restoration Done	Bill to Customer?

Enter Other Completion Information And Restoration Information on Back

Sketch:



Restoration Data:

	Required	Done	Date Done
Sand			
Gravel			
Base Coat			
Cold Patch			
Hot Patch			
Flow Fill			
Infra-Red			
Concrete			
Loam & Seed			
Other		✓	DCP
Size			
Signature			

Permit Data:

Dig Safe: Ticket # Date Effective
Notification: _____ _____
_____ _____

Permit Required:

		Date Sent	Date Rec'd	Permit #
Town	☐			
State	☐			

Water Notification: ☐ Date Called _____
Sewer Notification: ☐ Date Called _____

Stamps:

Completion Data:

Comments: QUICK KIT 1-8" JOINT LOCATION 29 FT WEST OF B 453

Completed Date: 3-12-07
Date Started: 3-12-07
Completed Units: 1
Signature: M. Tecolano

Distribution department
Daily Crew Sheet

Empl #	Name
386	TFLorio
1086	DEFORGE

Date	Vehicle #
3-12-07	386

Job	Work Order Number	Street #	Street Name	Town Code	Job Time	Pay Rate
	6497409-1	453	WORTHIGTON ST	SP	8	1
	6497409-1	453	WORTHIGTON ST	SP	1	1½

Total Hours Worked 9

Daily Work Comments

Job	Arrive	Depart	Work Description	Complete ?
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
Lunch	:	:		

SUPERVISOR APPROVAL

Distribution department
Daily Crew Sheet

Empl #	Name
386	TILOLO
1086	DEFORGE

Date	Vehicle #
3-6-07	386

Job	Work Order Number	Street #	Street Name	Town Code	Job Time	Pay Rate
	6467118-1	49	LYMAN ST	SH	2	1
	6497166	49	TOLCATT ST	SP	1	1
	6467118-1	49	LYMAN ST	SH	1	1
	6497409	453	WORTHINGTON ST	SP	½	1½
	"	453	WORTHINGTON ST	SP	2	1
	6448595	50	COLLEGE ST	SH	2	1

Total Hours Worked 8½

Daily Work Comments

Job	Arrive	Depart	Work Description	Complete ?
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
	:	:		
Lunch	:	:		

SUPERVISOR APPROVAL

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE SECOND SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: January 4, 2013

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

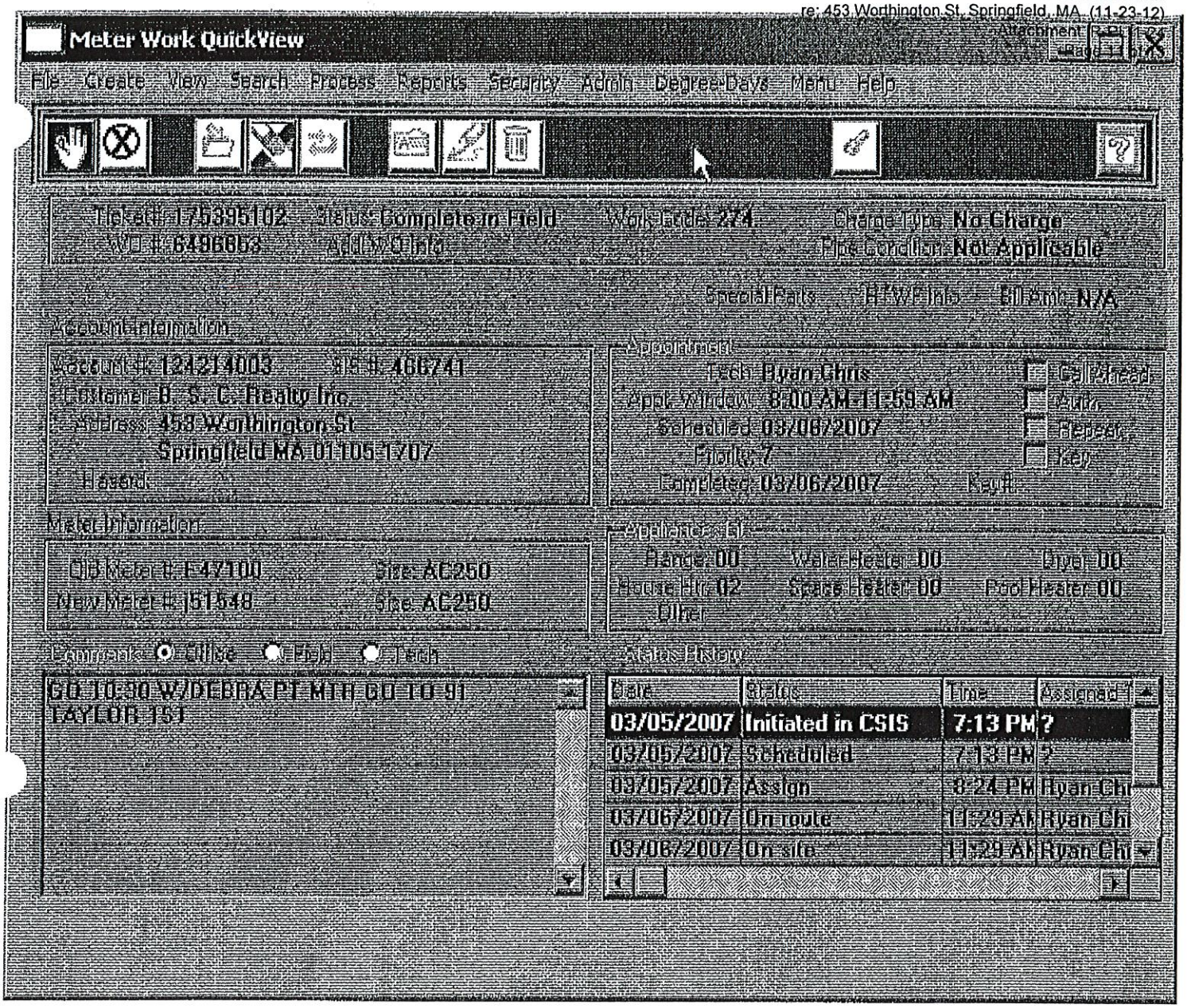
IR-PL-2-26: Refer to CMA response to IR PL 1-25. Provide a summary list noting the purpose of the CMA site visit at 453 Worthington Street, regarding: (a) leak history, (b) atmospheric inspections, (c) maintenance work on customer piping or equipment and Company owned piping. Provide the associated records for the itemized activities on the list.

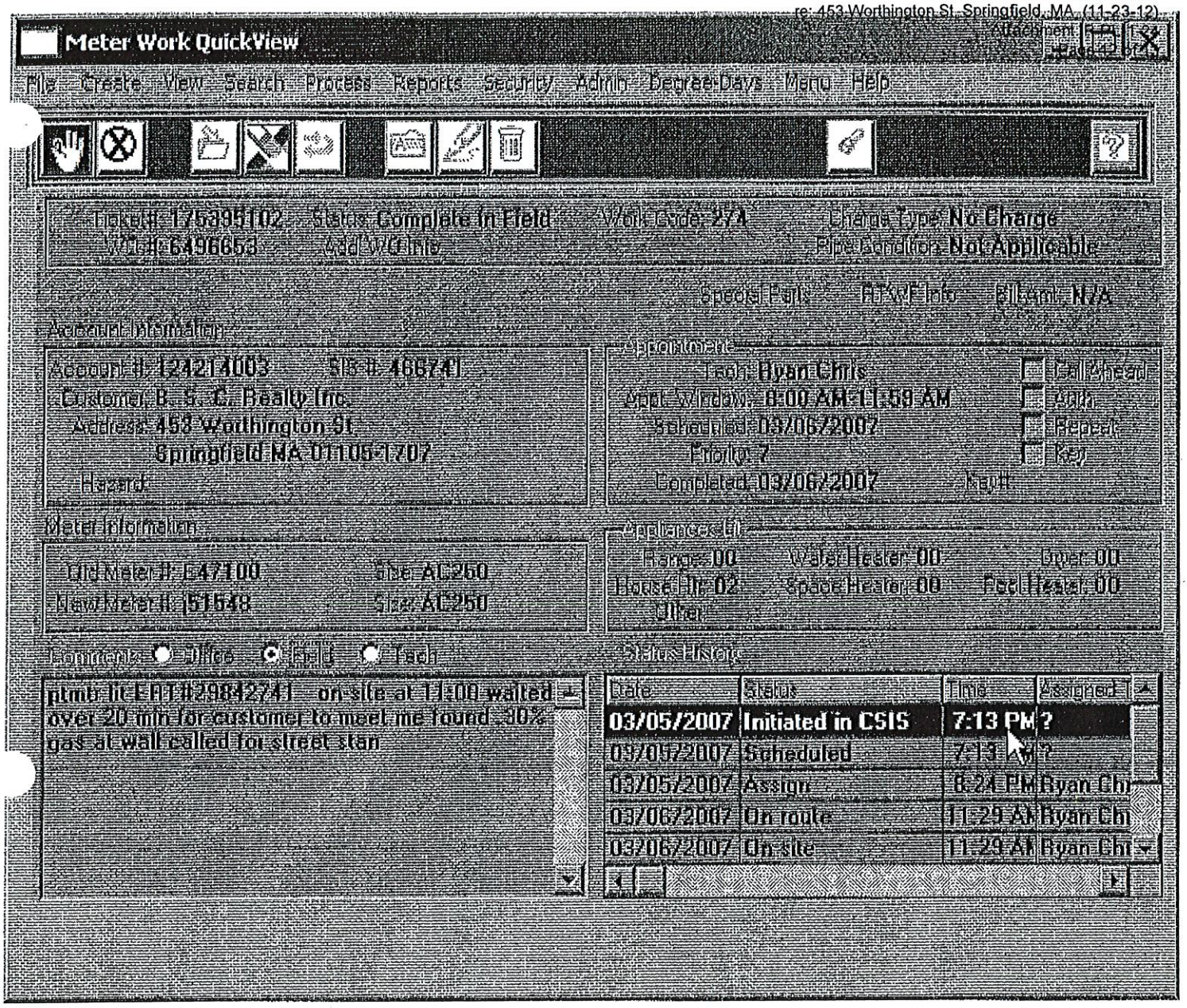
Response: (a) CMA has not had any visits to 453 Worthington Street, Springfield, due to leaks during the period 2007 through November 22, 2012.

(b) Inside atmospheric inspections were performed on June 27, 2008 and August 23, 2012. See Attachment IR-PL-1-25, pages 11 and 12 of 12.

(c) Please see the following work orders ("WO") for information regarding maintenance on customer and Company piping and equipment:

- Attachment IR-PL-2-26 (a) - WO for meter change out 3/6/2007.
- Attachment IR-PL-2-26 (b) - WO for service call on poor pressure 3/17/2008.
- Attachment IR-PL-2-26 (c) - WO for fitter to change out service regulator 3/17/2008.


Meter Work QuickView
File Create View Search Process Reports Security Admin Degree-Days Menu Help
Ticket#: 17539510 Status: Complete to Field Work Code: 274 Charge Type: No Charge
WO #: 6496863 Add'l WO Info: Pipe Condition: Not Applicable
Special Parts H/W Info Bill Item: N/A
Account Information
Account #: 124214003 Site #: 466741
Customer: B. S. C. Realty Inc.
Address: 453 Worthington St
Springfield MA 01105-1707
Hazard:
Appointment
Tech: Ryan Chris
Appt Window: 8:00 AM-11:59 AM
Scheduled: 03/06/2007
Priority: 7
Completed: 03/06/2007
Cyl Pressed
Auth.
Repeat
Key
Key#:
Meter Information
Old Meter #: E47100 Size: AC250
New Meter #: 61548 Size: AC250
Appliance Cl
Range: 00 Water Heater: 00 Dryer: 00
House Htr: 02 Space Heater: 00 Pool Heater: 00
Other:
Comment: Office Field Tech
GO TO 30 W/DEBRA PT MTH GO TO 91 TAYLOR 151
Status History
Date Status Time Assigned
03/05/2007 Initiated in CSIS 7:13 PM ?
03/05/2007 Scheduled 7:13 PM ?
03/05/2007 Assign 8:24 PM Ryan Chi
03/06/2007 On route 11:29 AM Ryan Chi
03/06/2007 On site 11:29 AM Ryan Chi


Meter Work QuickView
File Create View Search Process Reports Security Admin Degree Days Menu Help
Ticket#: 175395102 Status: Complete in Field Work Code: 27A Charge Type: No Charge
WO #: 6496653 Add'l WO Info: Fire Condition: Not Applicable
Special Parts: FAX'd Info: Bill Amt: N/A
Account Information
Account #: 124214003 SI #: 466741
Customer: B. S. C. Realty Inc.
Address: 453 Worthington St
Springfield MA 01105-1707
Hazard:
Appointment
Tech: Ryan Chris
Appt. Window: 8:00 AM-11:59 AM
Scheduled: 03/06/2007
Priority: 7
Completed: 03/06/2007
Call Ahead
Cash
Repeat
Key
Key#:
Meter Information
Old Meter #: C47100 Size: AC250
New Meter #: 151648 Size: AC250
Appliances (#)
Range: 00 Water Heater: 00 Dryer: 00
House Htr: 02 Space Heater: 00 Pool Heater: 00
Other:
Comments: Office Field Tech
plmb lic EXT#29842741 on site at 11:00 waited over 20 min for customer to meet me found .30% gas at wall called for street stan
Status History
Date | Status | Time | Assigned
03/05/2007 | Initiated in CSIS | 7:13 PM | ?
03/05/2007 | Scheduled | 7:13 PM | ?
03/05/2007 | Assign | 8:24 PM | Ryan Chr
03/06/2007 | On route | 11:29 AM | Ryan Chr
03/06/2007 | On site | 11:29 AM | Ryan Chr

Meter Work QuickView

File Create View Search Process Reports Security Admin Degree-Days Menu Help

Ticket#: 175395102 Status: **Complete in Field** Work Code: 274 Charge Type: **No Charge**
WO #: 6496653 Add WO Info Pipe Condition: **Not Applicable**

Special Falls ATWF Info Bill Amt: **N/A**

Account Information

Account #: 124214003 SIS #: 466741
Customer: B. S. G. Realty Inc.
Address: 453 Worthington St
Springfield MA 01105-1707
Hazard:

Appointment

Tech: Ryan Chris
Appt Window: 8:00 AM-11:59 AM
Scheduled: 03/06/2007
Priority: 7
Completed: 03/06/2007
Call Ahead / Auth / Repeat / Key / Keep

Meter Information

Old Meter #: E47100 Size: AC250
New Meter #: j51548 Size: AC250

Appliances Lit

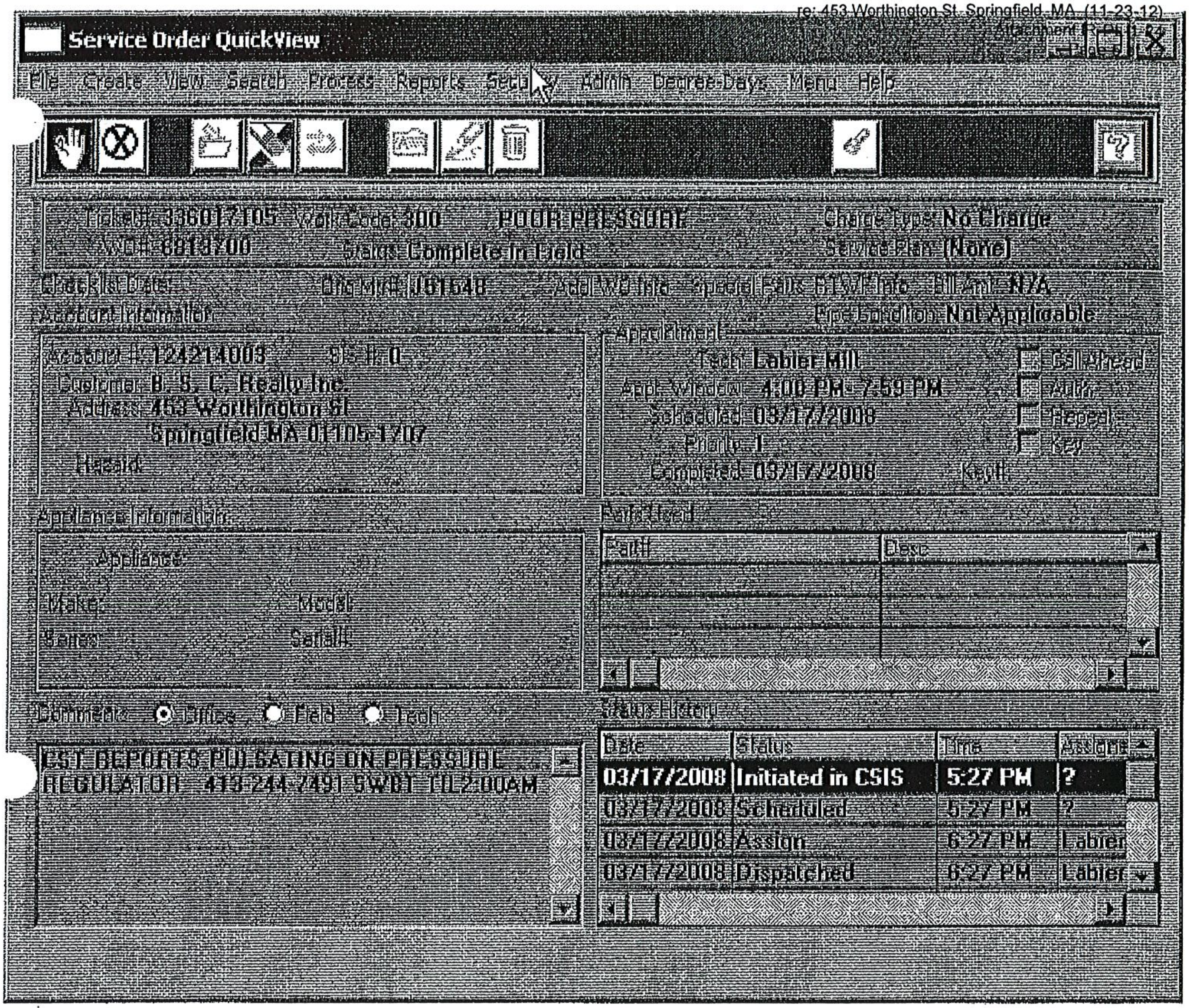
Range: 00 Water Heater: 00 Dryer: 00
House Htr: 02 Space Heater: 00 Pool Heater: 00
Other:

Comment: Office Field Tech

service has been re-run000.00% LEL

Status History

Date	Status	Time	Assigned T
03/05/2007	Initiated in CSIS	7:13 PM	?
03/05/2007	Scheduled	7:13 PM	?
03/05/2007	Assign	8:24 PM	Ryan Chi
03/06/2007	On route	11:29 AM	Ryan Chi
03/06/2007	On site	11:29 AM	Ryan Chi



Service Order QuickView

File Create View Search Process Reports Security Admin Degree-Days Menu Help

Ticket#: 336017105 Work Code: 300 POOR PRESSURE Charge Type: No Charge
WO#: 6813700 Status: Complete in Field Service Plan: (None)
Checklist Date: Orig Mr#: J51648 Add'l WO Info Special Fads BTWP Info Bill Amt: N/A
Account Information Pipe Condition: Not Applicable

Account #: 124214003 SI: 0
Customer: B. S. C. Realty Inc.
Address: 453 Worthington St
Springfield MA 01105-1707
Hazard:

Appointment
Tech: Labier Mill
Appt. Window: 4:00 PM - 7:59 PM
Scheduled: 03/17/2008
Priority: 1
Completed: 03/17/2008
Call Ahead / Adds / Repeat / Key / Key#:

Appliance Information
Appliance:
Make: Model:
Series: Serial#:

Parts Used

Part#	Desc

Comments: Office Field Tech

CST REPORTS PULSATING ON PRESSURE REGULATOR 413-244-7491 SWBT TIL 2:00AM

Status History

Date	Status	Time	Assigned
03/17/2008	Initiated in CSIS	5:27 PM	?
03/17/2008	Scheduled	5:27 PM	?
03/17/2008	Assign	6:27 PM	Labier
03/17/2008	Dispatched	6:27 PM	Labier

Service Order QuickView

File Create View Search Process Reports Security Admin Degree Days Menu Help

Ticket#: 338017105 Work Code: 300 POOR PRESSURE Charge Type: No Charge
WO#: 6813700 Status: Complete in Field Service Plan: [None]

Checklist Date: Orig Mtr#: J51548 Add'l WO Info Special Parts RTWF Info Bill Amt: N/A

Account Information Pipe Condition: Not Applicable

Account #: 124214003 SIS #: 0
Customer: B. S. C. Realty Inc.
Address: 453 Worthington St
Springfield MA 01105-1707
Hazard:

Appointment
Tech: Labier Milt
Appt. Window: 4:00 PM - 7:59 PM
Scheduled: 03/17/2008
Priority: 1
Completed: 03/17/2008 Key#:

Call Ahead
Auth
Repeat
Key

Appliance Information
Appliance:
Make: Model:
Series: Serial#:

Parts Used

Part#	Desc

Comments: Office Field Tech

INSTALL NREW REG WITH PIPE

Status History

Date	Status	Time	Assigne
03/17/2008	Initiated in CSIS	5:27 PM	?
03/17/2008	Scheduled	5:27 PM	?
03/17/2008	Assign	6:27 PM	Labier
03/17/2008	Dispatched	6:27 PM	Labier

Service Order QuickView

File Create View Search Process Reports Security Admin Degree Days Menu Help

Ticket#: 336017105 Work Code: 300 **POOR PRESSURE** Charge Type: **No Charge**
WO#: 6813700 Status: **Complete in Field** Service Plan: **(None)**

Checklist Date: Orig Mtr#: **051540** Add WO Info Special Parts RTW Info Bill Amt: **N/A**

Account Information Pre Condition: **Not Applicable**

Account #: 124214003 SIS #: 0
Customer: B. S. C. Realty Inc.
Address: 453 Worthington St
Springfield MA 01105-1707
Hazard:

Appointment
Tech: Labier Mill
Appt. Window: 4:00 PM - 7:59 PM
Scheduled: 03/17/2008
Priority: 1
Completed: 03/17/2008
Key#:
Call Ahead
Auth
Repeat
Key

Appliance Information
Appliance:
Make: Model:
Series: Serial #:

Parts Used

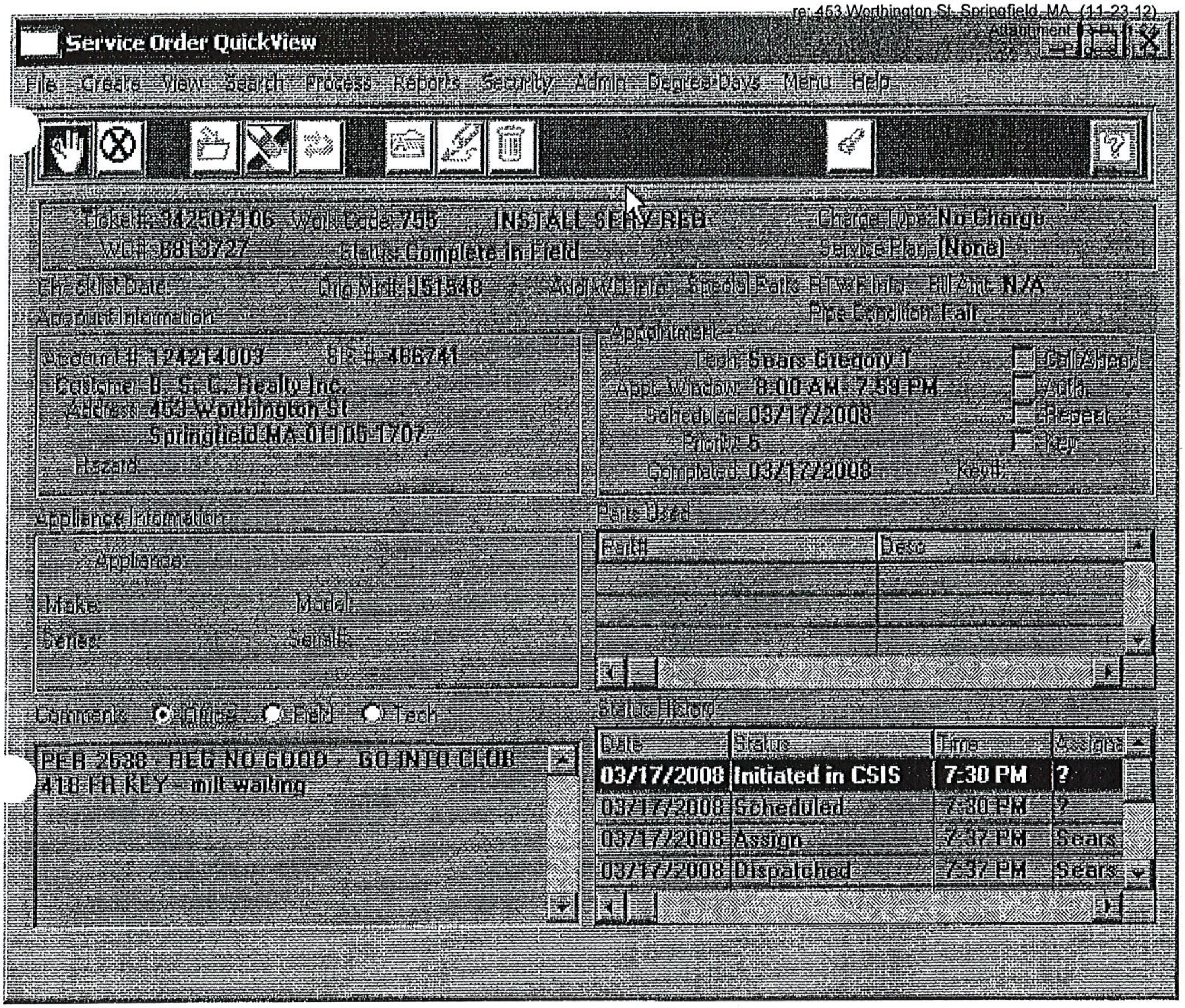
Part#	Desc

Comments: Office Field Tech

000.00% LEL

Status History

Date	Status	Time	Assigne
03/17/2008	Initiated in CSIS	5:27 PM	?
03/17/2008	Scheduled	6:27 PM	?
03/17/2008	Assign	6:27 PM	Labier
03/17/2008	Dispatched	6:27 PM	Labier



Service Order QuickView

File Create View Search Process Reports Security Admin Degree Days Menu Help

Ticket#: 342507106 Work Code: 755 INSTALL SERV REG Charge Type: No Charge
WO#: 8813727 Status: Complete in Field Service Plan: (None)

CheckList Date: Orig Mrt#: U51848 Add WO Info Special Parts RTWF Info Bill Amt: N/A
Pipe Condition: Fair

Account Information

Account #: 124214003 SP #: 466741
Customer: B. S. C. Realty Inc.
Address: 453 Worthington St
Springfield MA 01105-1707
Hazard:

Appointment

Tech: Sears Gregory T
Appt. Window: 8:00 AM - 7:59 PM
Scheduled: 03/17/2008
Priority: 5
Completed: 03/17/2008
Key#:

☐ Call Ahead ☐ Auth. ☐ Repeat ☐ Key

Appliance Information

Appliance:
Make: Model:
Series: Serial#:

Parts Used

Part#	Desc

Comments: (•) Office ( ) Field ( ) Tech

PEB 2638 - REG NO GOOD - GO INTO CLUB
418 FR KEY - mill waiting

Status History

Date	Status	Time	Assigne
03/17/2008	Initiated in CSIS	7:30 PM	?
03/17/2008	Scheduled	7:30 PM	?
03/17/2008	Assign	7:37 PM	Sears
03/17/2008	Dispatched	7:37 PM	Sears

Service Order QuickView

File Create View Search Process Reports Security Admin Degree-Days Menu Help

Ticket#: 342507106 Work Code: 755 **INSTALL SERV REG** Charge type: No Charge
WO#: 6813727 Status: Complete in Field Service Plan: [None]

Checklist Date: Orig Mtr#: 051640 Addl WO Info Special Parts RTWF Info Bill Amt: N/A

Account Information Pipe Condition: Fair

Account #: 124214003 SIS #: 466741
Customer: B. B. C. Realty Inc.
Address: 453 Worthington St
Springfield MA 01105-1707
Hazard:

Appointment
Tech: Sears Gregory T
Appt. Window: 8:00 AM 7:59 PM
Scheduled: 03/17/2008
Priority: 5
Completed: 03/17/2008
Keys

Call Ahead
Auto
Repeat
Key

Appliance Information
Appliance:
Make: Model:
Series: Serial#:

Parts Used

Part#	Desc

Comments: Office Field Tech

REPLACE REG RELITE APPL

Status History

Date	Status	Time	Assigne
03/17/2008	Initiated in CSIS	7:30 PM	?
03/17/2008	Scheduled	7:30 PM	?
03/17/2008	Assign	7:37 PM	Sears
03/17/2008	Dispatched	7:37 PM	Sears

Service Order QuickView

File Create View Search Process Reports Security Admin Degree Days Menu Help

Ticket#: 342507106 Work Code: 756 **INSTALL SERV REG** Charge Type: **No Charge**
WO#: 6813727 Status: **Complete in Field** Service Plan: **(None)**

Checklist Date: Orig Mnth: 051648 Addl WO Info Special Pmts FTW Info Bill Amt: N/A

Account Information Pipe Condition: Fair

Account #: 1242J4003 S/L #: 466741
Customer: B. S. C. Realty Inc.
Address: 453 Worthington St
Springfield MA 01105-1707
Hazard:

Appointment
Tech: Sears Gregory T
Appt. Window: 8:00 AM - 7:59 PM
Scheduled: 03/17/2008
Priority: 5
Completed: 03/17/2008 Key#:

☐ Call Ahead
☐ Auth
☐ Repeat
☐ Key

Appliance Information
Appliance:
Make: Model:
Series: Serial#:

Parts Used

Part#	Desc

Comments: ○ Office ○ Field ◉ Tech

000.00% LEL

Status History

Date	Status	Time	Assigne
03/17/2008	Initiated in CSIS	7:30 PM	?
03/17/2008	Scheduled	7:30 PM	?
03/17/2008	Assign	7:37 PM	Sears
03/17/2008	Dispatched	7:37 PM	Sears

EXHIBIT 13

Leak Survey and Atmospheric Corrosion Inspection
453 Worthington Street

Dennis Henriques CMA Piping Inspection

Last Name BSC REALTY INC | First Name | Middle Init

Address 453 WORTHINGTON ST

City : SPRINGFIELD State : MA Zip Code 01105

Phone # 4137882100 Extension :

Site Id : 345323004

Meter Loc CELLAR - FRONT

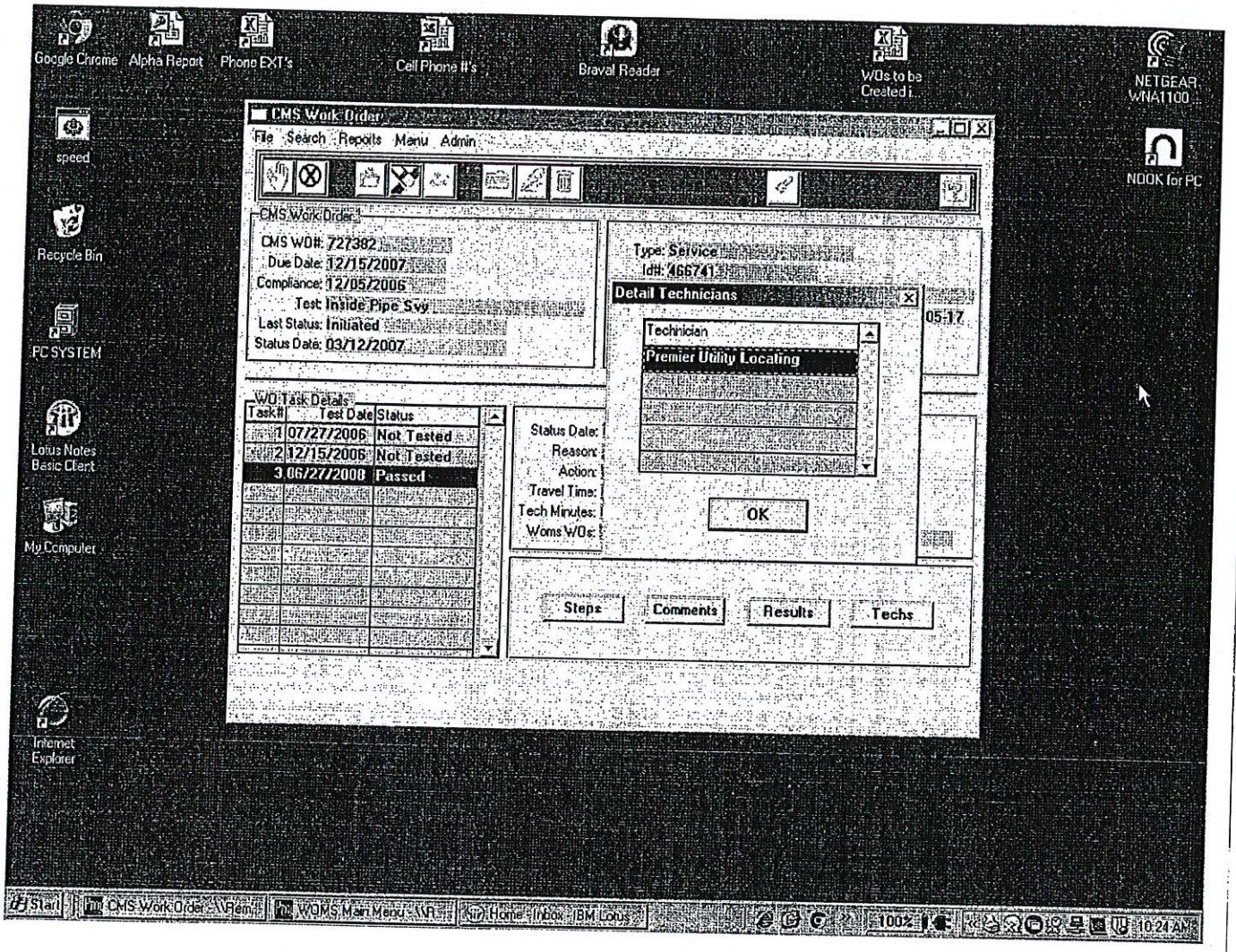
Inspection Date 8-23-12 Inspection Activity

Meter # : 351548 Comment :

Leak Test : ☒ Pass ☐ Fail

Corrosion : ☒ Good ☐ Fair ☐ Poor

INSIDE PIPE INSPECTION



CMS - INSIDE PIPE SURVEY

EXHIBIT 14

Leakage Survey Records – Worthington Street

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: December 10, 2012

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-1-17: Provide the dates of the main and service leakage surveys the Operator performed on Worthington Street, between Spring and Dwight Streets, from January 1, 2007, to November 22, 2012, and the results of these surveys.

Response: Please see:

- Attachment IR-PL-1-22-Map-Winter Survey
- Attachment IR-PL-1-22-Map-Walking Survey
- Attachment IR-PL-1-22-Map-Mobile Survey.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

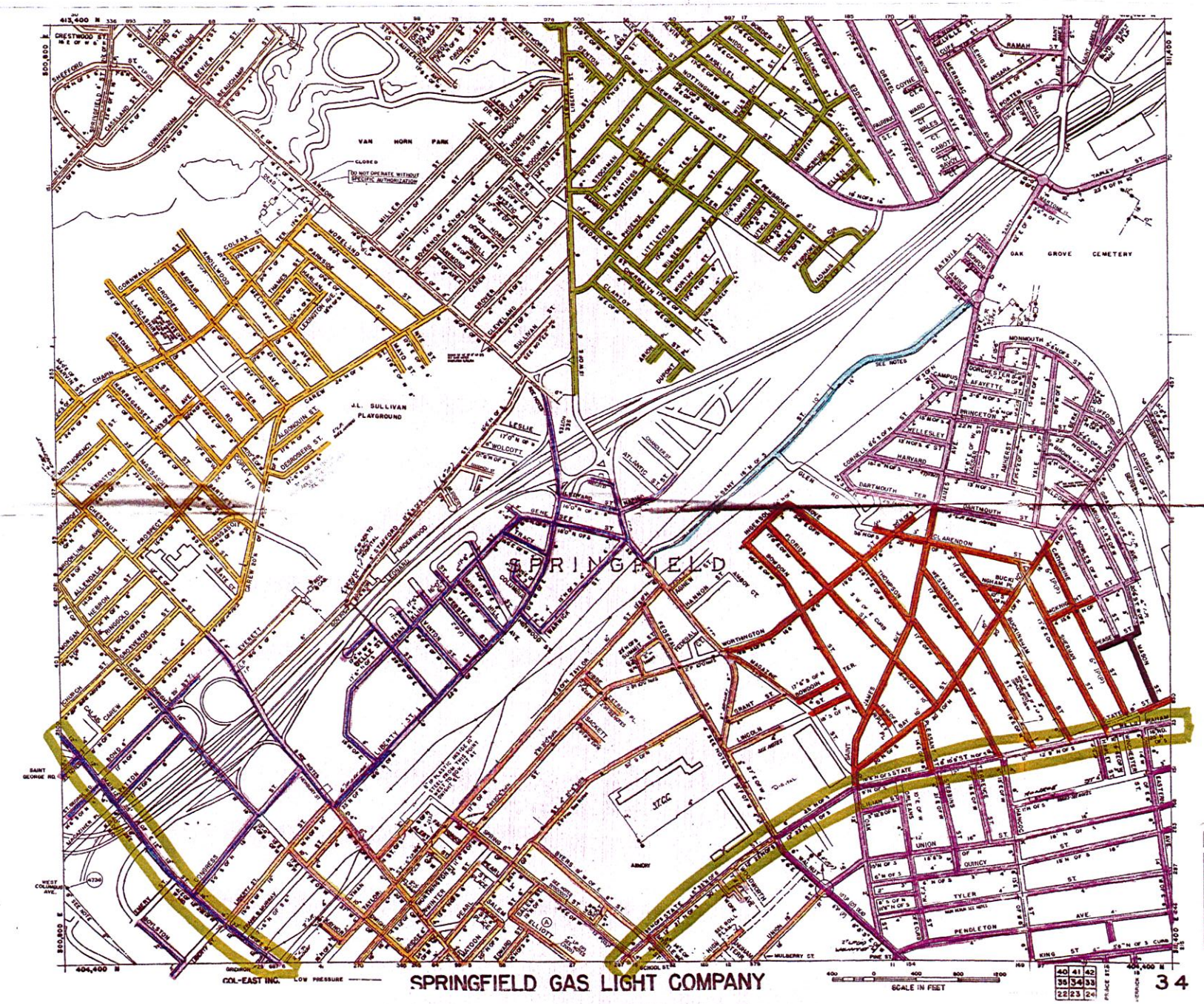
Date: December 10, 2012

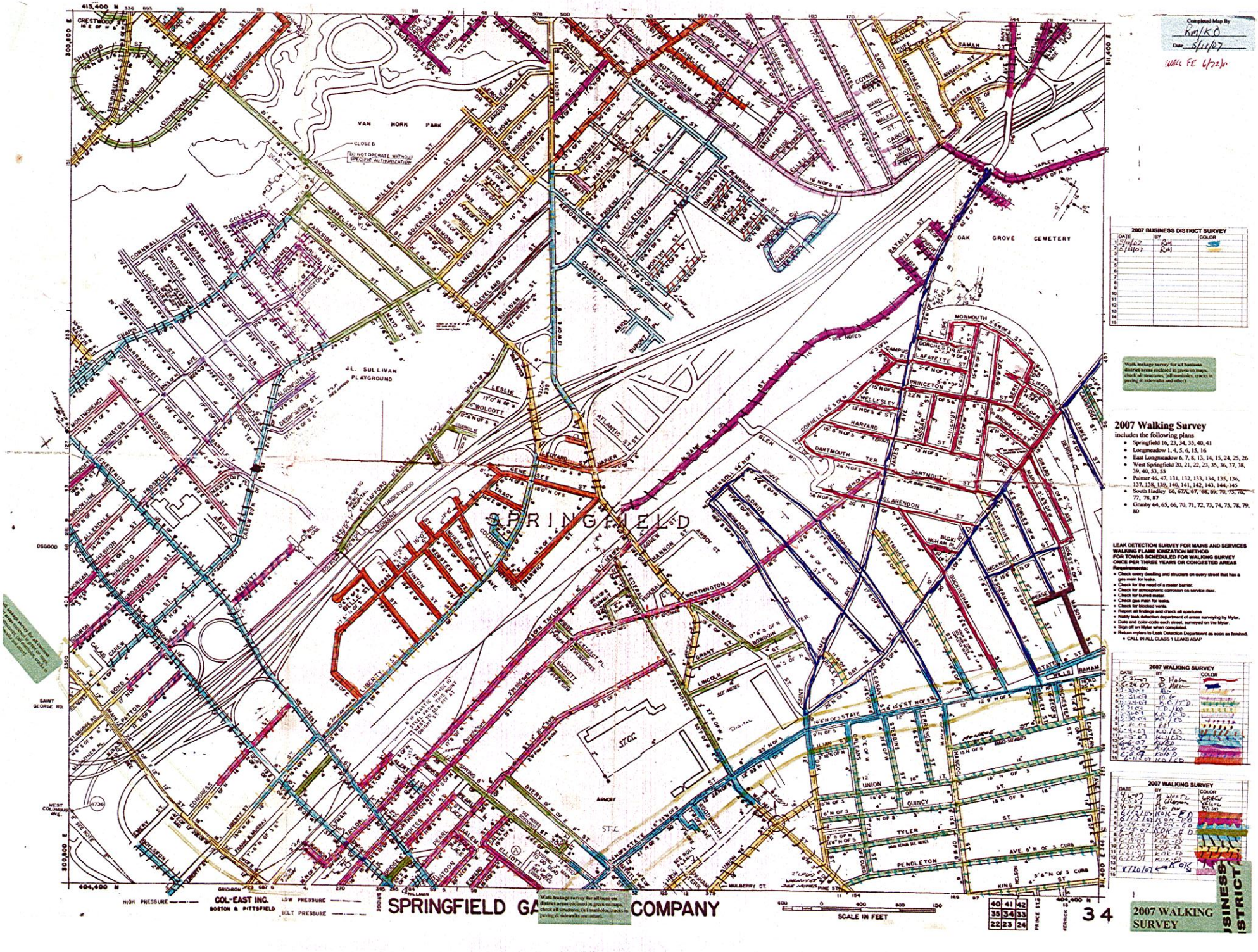
Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

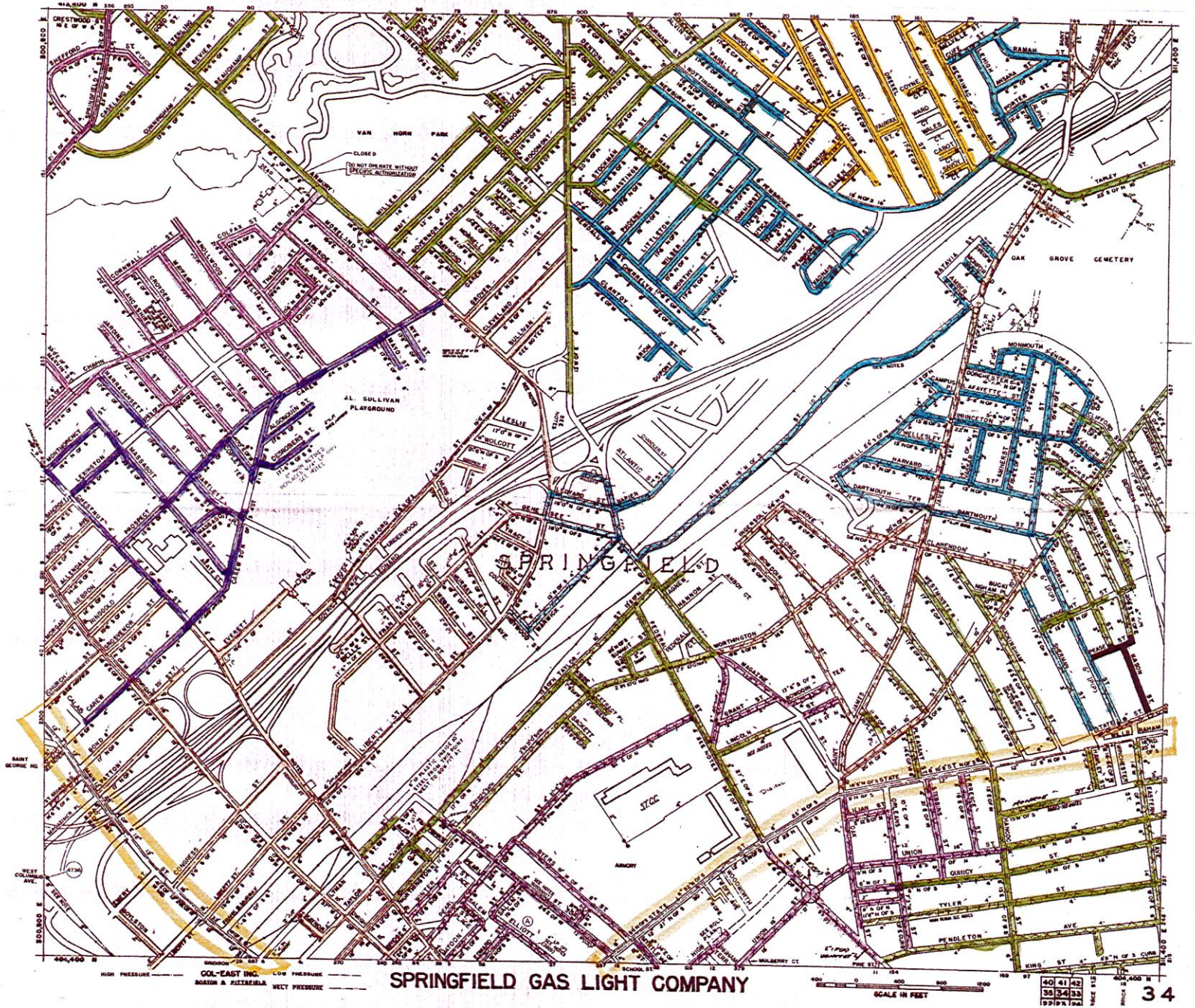
IR-PL-1-22: Provide records of the main servicing 453 Worthington Street, Springfield, between Spring and Chestnut Streets, including but not limited to, installation date, MAOP, operating pressure, leak history, and maintenance work, from January 1, 2007 to November 22, 2012.

Response: Please see Attachment IR-PL-1-22 for copies of the requested records. Please also see the following maps:

- Attachment IR-PL-1-22-Map-Winter Survey
- Attachment IR-PL-1-22-Map-Walking Survey
- Attachment IR-PL-1-22-Map-Mobile Survey.


SPRINGFIELD
VAN HORN PARK
OAK GROVE CEMETERY
J.L. SULLIVAN PLAYGROUND
ARMORY
SPRINGFIELD GAS LIGHT COMPANY
COL-EAST INC.
SCALE IN FEET
BUSINESS DISTRICT
MYLAR 34
2012 Winter Patrol
Blue = Not Cast Iron
DO NOT SURVEY
2012
Winter Patrol Survey
DATE
BY
COLOR
34


Completed Map By
RM/KO
Date 5/11/07
With FE 6/22/07
2007 BUSINESS DISTRICT SURVEY
DATE BY COLOR
5/10/07 RM
5/11/07 RM
Walk leakage survey for all business district areas enclosed in green on maps, check all structures, (all manholes, cracks in paving & sidewalks and other)
2007 Walking Survey
includes the following plans
Springfield 16, 23, 34, 35, 40, 41
Longmeadow 1, 4, 5, 6, 15, 16
East Longmeadow 6, 7, 8, 13, 14, 15, 24, 25, 26
West Springfield 20, 21, 22, 23, 35, 36, 37, 38, 39, 40, 53, 55
Palmer 46, 47, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145
South Hadley 66, 67A, 67, 68, 69, 70, 75, 76, 77, 78, 87
Granby 64, 65, 66, 70, 71, 72, 73, 74, 75, 78, 79, 80
LEAK DETECTION SURVEY FOR MAINS AND SERVICES
WALKING FLAME IONIZATION METHOD
FOR TOWNS SCHEDULED FOR WALKING SURVEY
ONCE PER THREE YEARS OR CONGESTED AREAS
Requirements:
Check every dwelling and structure on every street that has a gas main for leaks.
Check for the need of a meter barrier.
Check for atmospheric corrosion on service riser.
Check for buried meter.
Check gas main for leaks.
Check for blocked vents.
Report all findings and check all apertures.
Notify leak detection department of areas surveying by Mylar.
Date and color-code each street, surveyed on the Mylar.
Sign off on Mylar when completed.
Return mylars to Leak Detection Department as soon as finished.
CALL IN ALL CLASS 1 LEAKS ASAP
2007 WALKING SURVEY
DATE BY COLOR
2007 WALKING SURVEY
DATE BY COLOR
8/20/07
Walk leakage survey for all business district areas enclosed in green on maps, check all structures, (all manholes, cracks in paving & sidewalks and other)
SPRINGFIELD
VAN HORN PARK
J.L. SULLIVAN PLAYGROUND
OAK GROVE CEMETERY
ARMORY
SPRINGFIELD GAS COMPANY
COL-EAST INC.
BOSTON & PITTSFIELD
HIGH PRESSURE
LOW PRESSURE
BELT PRESSURE
SCALE IN FEET
34
2007 WALKING SURVEY



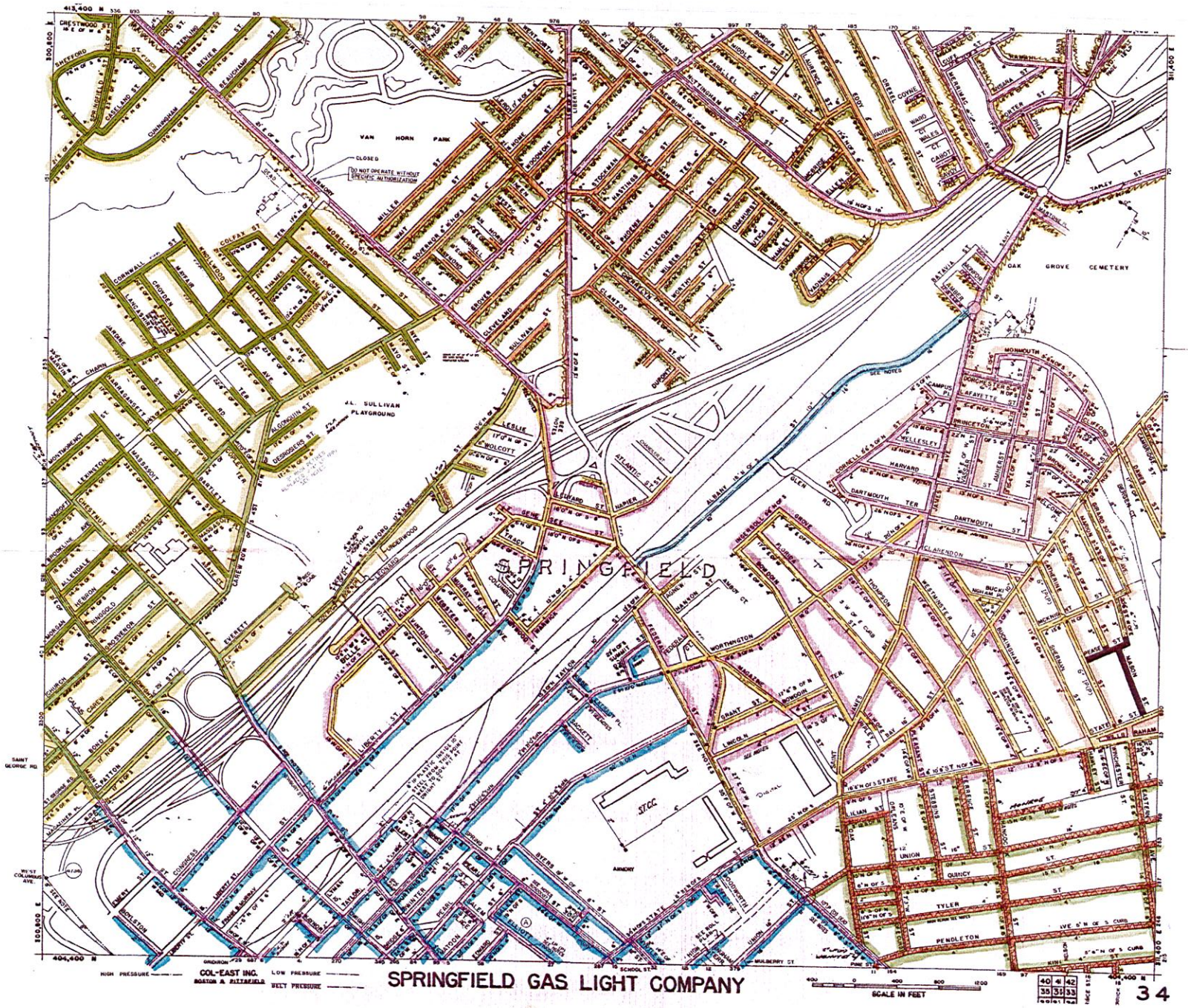
SURVEYED ON BUSINESS DISTRICT SURVEY

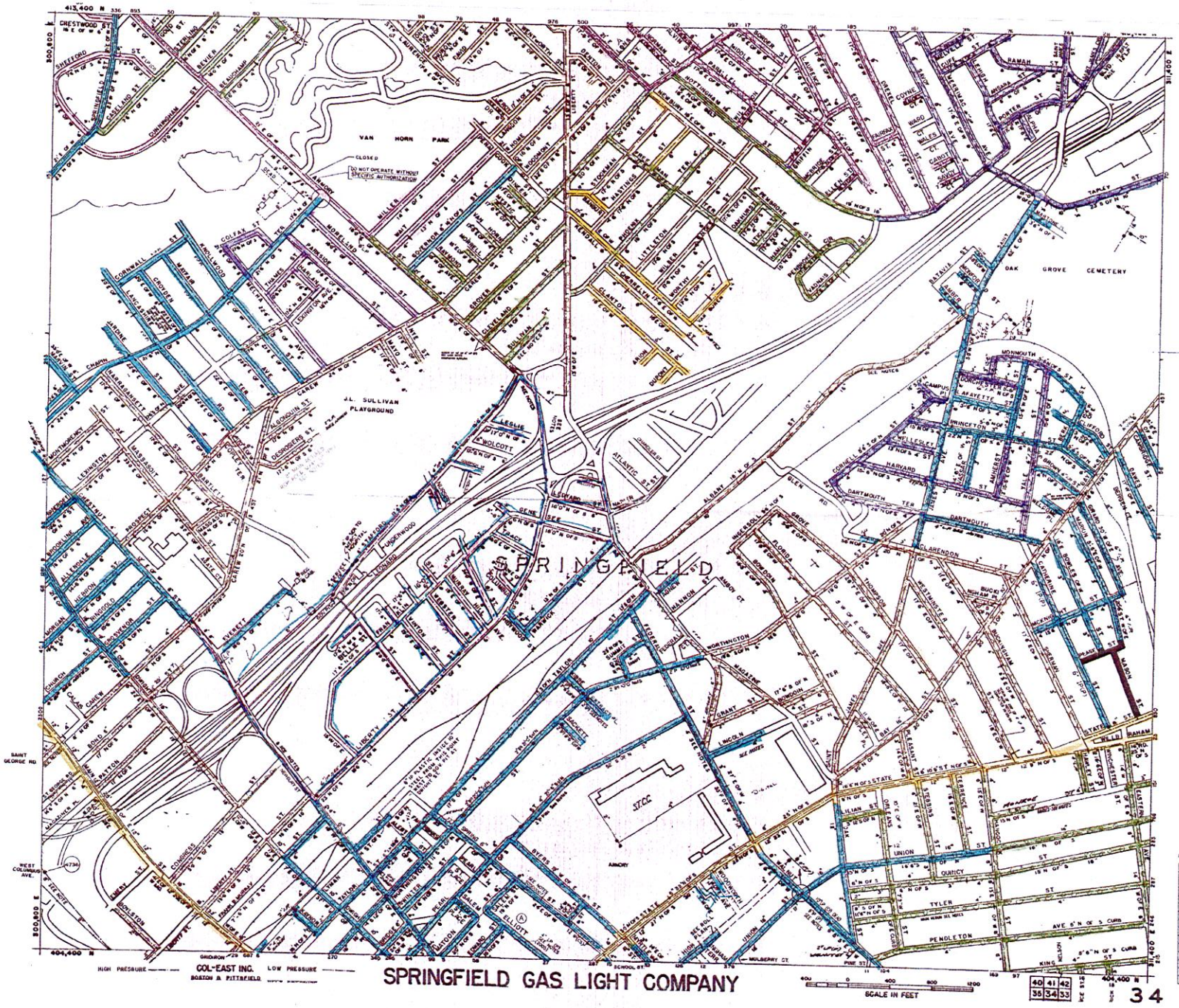
MOBILE SURVEY MYLAR 34

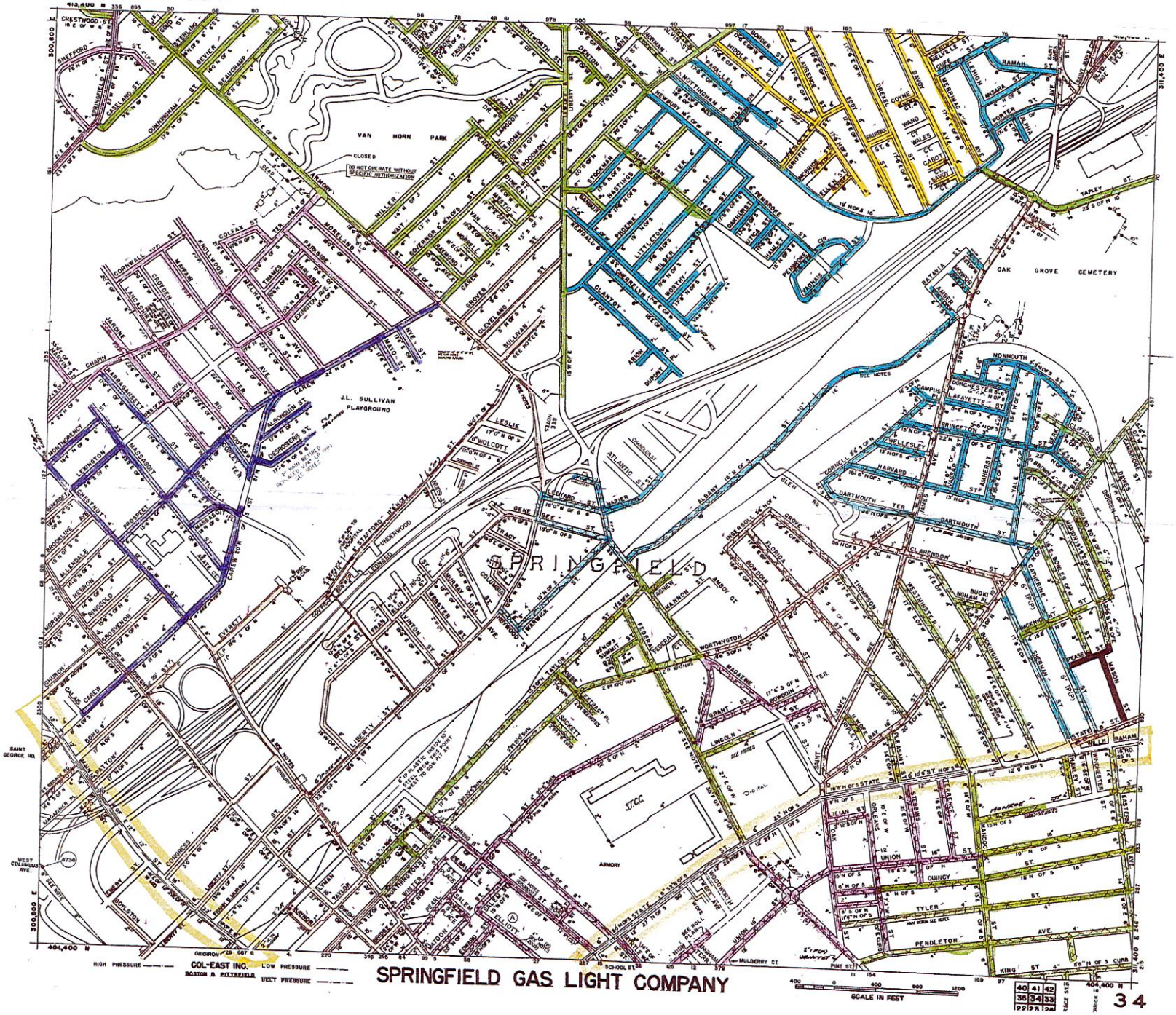
Mobile Survey

	DATE	BY	COLOR
1	4-5-72	Bill Hastings	
2	4-6-72	Bill Hastings	
3	4-6-72	Bill Hastings	
4	4-7-72	Bill Hastings	
5	4-7-72	Bill Hastings	
6	4-10-72	Bill Hastings	
7	4-11-72	Bill Hastings	
8	4-11-72	Bill Hastings	
9	4-12-72	Bill Hastings	
10	4-12-72	Bill Hastings	
11	4-13-72	Bill Hastings	
12	4-14-72	Bill Hastings	
13			
14			
15			
16			

34


2011 Winter Patrol
Blue =Not Cast Iron
Do Not Survey
SPRINGFIELD
VAN HORN PARK
J.L. SULLIVAN PLAYGROUND
OAK GROVE CEMETERY
ARMORY
STCC
CRN 1-28-11
CRN 1-31-11
CRN 2-1-11
CRN 2-3-11
CRN 2-4-11
CRN 2-8-11
M. Davila 3-9-11
M. Davila 3-10-11
M. Davila 3-11-11
M. Davila 3-14-11
M. Davila 3-15-11
M. Davila 3-16-11
M. Davila 3-17-11
HIGH PRESSURE
COL-EAST INC.
BOSTON & PITTSFIELD
LOW PRESSURE
BELT PRESSURE
SPRINGFIELD GAS LIGHT COMPANY
SCALE IN FEET
34


SPRINGFIELD
VAN HORN PARK
CLOSED
DO NOT OPERATE WITHOUT SPECIFIC AUTHORIZATION
OAK GROVE CEMETERY
J.J. SULLIVAN PLAYGROUND
ARMORY
SPRINGFIELD GAS LIGHT COMPANY
COL-EAST INC.
BOSTON & PITTSFIELD
HIGH PRESSURE
LOW PRESSURE
SCALE IN FEET
SURVEYED ON BUSINESS DISTRICT SURVEY
2011 Leak Survey
MOBILE
Springfield
Mylar 34
Mobile Survey
DATE
BY
COLOR
34

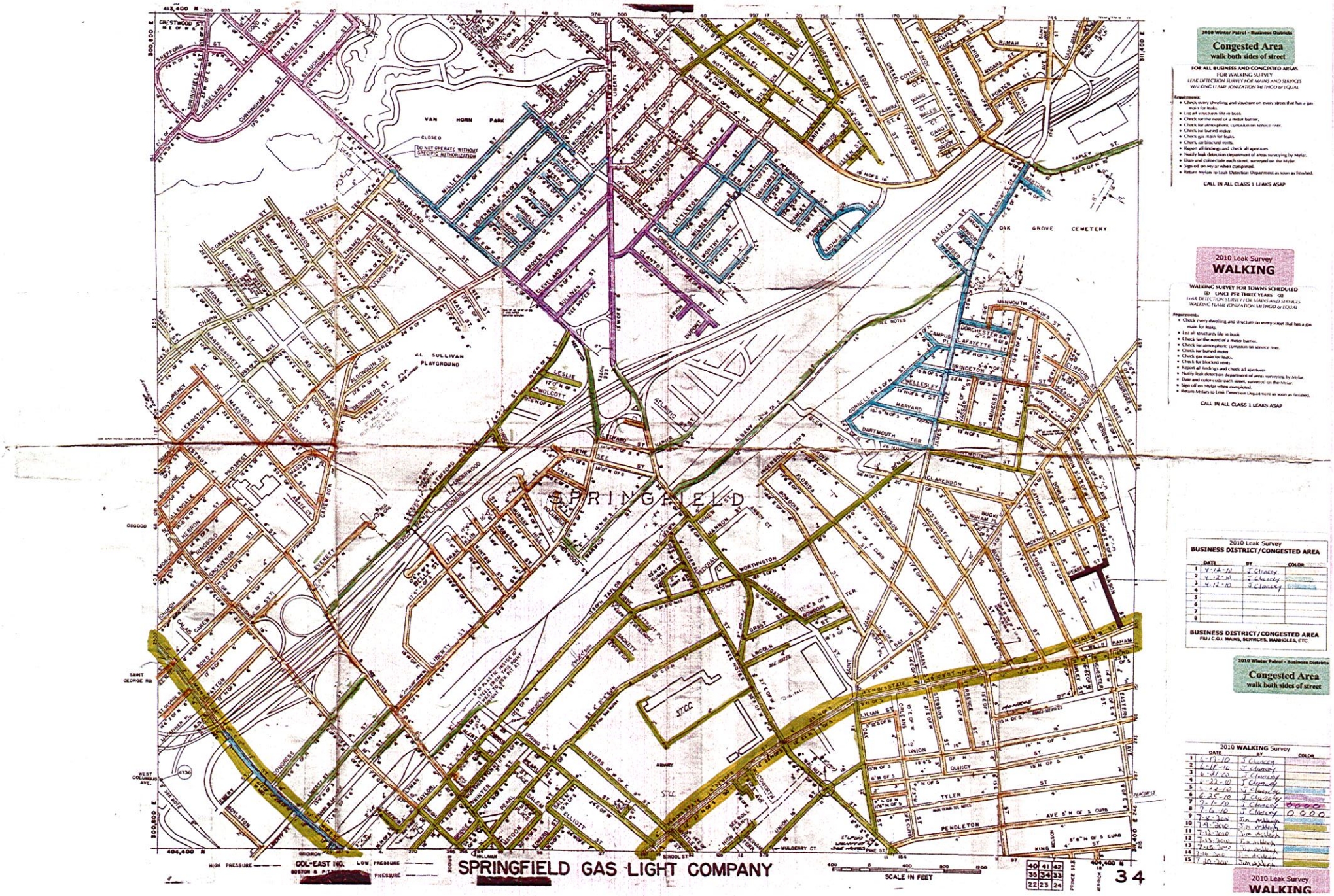


SURVEYED ON BUSINESS DISTRICT SURVEY

MOBILE SURVEY
MYLAR 34

Mobile Survey

	DATE	BY	COLOR
1	4-3-12	Bill Hastings	
2	4-5-12	Bill Hastings	
3	4-5-12	Bill Hastings	
4	4-6-12	Bill Hastings	
5	4-9-12	Bill Hastings	
6	4-9-12	Bill Hastings	
7	4-11-12	Bill Hastings	
8	4-12-12	Bill Hastings	
9	4-12-12	Bill Hastings	
10	4-13-12	Bill Hastings	
11	4-13-12	Bill Hastings	
12	4-16-12	Bill Hastings	
13			
14			
15			



2010 Winter Patrol - Business Districts

Congested Area
walk both sides of street

FOR ALL BUSINESS AND CONGESTED AREAS
FOR WALKING SURVEY
LEAK DETECTION SURVEY FOR MAINS AND SERVICES
WALKING FLAME IONIZATION METHOD or EQUAL

Requirements:
- Check every dwelling and structure on every street that has a gas main for leaks.
- List all structures like in book.
- Check for the need of a meter barrier.
- Check for atmospheric corrosion on service risers.
- Check for burned meter.
- Check gas main for leaks.
- Check for blocked vents.
- Report all findings and check all apertures.
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- Date and color-code each street, surveyed on the Mylar.
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- Return Mylars to Leak Detection Department as soon as finished.

CALL IN ALL CLASS 1 LEAKS ASAP

2010 Leak Survey

WALKING

WALKING SURVEY FOR TOWNS SCHEDULED
@ ONCE PER THREE YEARS @
LEAK DETECTION SURVEY FOR MAINS AND SERVICES
WALKING FLAME IONIZATION METHOD or EQUAL

Requirements:
- Check every dwelling and structure on every street that has a gas main for leaks.
- List all structures like in book.
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CALL IN ALL CLASS 1 LEAKS ASAP

2010 Leak Survey
BUSINESS DISTRICT/CONGESTED AREA

	DATE	BY	COLOR
1	4-12-10	J Clancy	
2	4-22-10	J Clancy	
3	5-12-10	J Clancy	
4			
5			
6			
7			
8			

BUSINESS DISTRICT/CONGESTED AREA
FIU / C.O.I. MAINS, SERVICES, MANIFOLDS, ETC.

2010 Winter Patrol - Business Districts

Congested Area
walk both sides of street

2010 **WALKING** Survey

	DATE	BY	COLOR
1	6-7-10	J Clancy	
2	6-11-10	J Clancy	
3	6-21-10	J Clancy	
4	6-22-10	J Clancy	
5	6-24-10	J Clancy	
6	6-25-10	J Clancy	
7	7-1-10	J Clancy	
8	7-6-10	J Clancy	
9	7-8-2010	Jim Mullen	
10	7-9-2010	Jim Mullen	
11	7-12-2010	Jim Mullen	
12	7-13-2010	Jim Mullen	
13	7-15-2010	Jim Mullen	
14	7-16-2010	Jim Mullen	
15	7-20-2010	Jim Mullen	

2010 Leak Survey
WALKING

EXHIBIT 15

Post Incident Leakage Survey Results

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

RESPONSE OF COLUMBIA GAS OF MASSACHUSETTS TO THE FIRST SET OF INFORMATION REQUESTS FROM THE D.P.U. PIPELINE ENGINEERING AND SAFETY DIVISION

453 Worthington St., Springfield, MA (11-23-12)

Date: December 10, 2012

Responsible: Danny G. Cote, V.P. Pipeline Safety Compliance

IR-PL-1-19: Provide the results of the leak investigation the Operator performed after the Incident in the area surrounding Worthington Street. Provide a map of the area checked, and associated leak investigation documents.

Response: Please see Attachment IR-PL-1-19 (a) for the leak results.

Please see Attachment IR-PL-1-19 (b) for the map indicating the survey area.

Please see Attachment IR-PL-1-19 (c) for the map indicating the leak survey area and barhole readings.

7 pm - 7am Eric Shepard #125884

11/25 - 11/26

Worthington / Scores

9:30 74%
11pm 74%
12:45am 52%
2:30 am 52%
4:15am 52%
5:30 am 72%

November 30, 2012

320 160 0 320 Feet

Survey Area in the Location of Worthington St Springfield, MA

Columbia Gas of Massachusetts
A NiSource Company